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MANITOBA ESSAYS



Top: PART OF THE FORT GARRY SITE OF THE UNIVERSITY
OF MANITOBA;

Left Centre: ARTS COLLEGE; *Right Centre:* SCIENCE,
ADMINISTRATION AND HORTICULTURE BUILDINGS;

Bottom: STUDENTS' RESIDENCE

MANITOBA ESSAYS

WRITTEN IN COMMEMORATION OF
THE SIXTIETH ANNIVERSARY OF
THE UNIVERSITY OF MANITOBA

By

MEMBERS OF THE TEACHING STAFFS OF THE
UNIVERSITY AND ITS AFFILIATED COLLEGES

R. C. LODGE, *Editor*



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FOREWORD

The University of Manitoba celebrated in May of this year the sixtieth anniversary of its establishment by the Legislature of the Province. Professor Lodge suggested to the committee in charge of the Diamond Jubilee Celebration that the observance of the birthday should not be merely commemorative in character but that it should be marked by a special educational enterprise in the form of a volume of essays written by members of the University. The suggestion was adopted unanimously, and Professor Lodge was appointed to the chairmanship of the editorial board. With him there are associated the Chancellor, Dr. J. W. Dafoe; Professor A. T. Cameron; Professor E. K. Brown, and myself.

Those who moved the Legislature to found in 1877 the institution—the first university in western Canada—were indeed men of faith and vision. They realized the need in this pioneer region for the training of men and women equipped to develop its natural resources, qualified to follow professional careers and endowed to lead the people in a search of beauty and truth. The legislators who enacted the charter of the University, in turn, believed that the institution would promote the welfare of the citizens of the Province that was then only six years old.

The preamble of the present University Act embodies the objectives of the founders as set forth in the legislation of 1877. It reads, in part: "the raising of the standard of higher education in the Province and the enabling of members of all classes and denominations to obtain the advantages which may be afforded by universities". They recognized that the task of raising standards is a constant one. As new peaks of knowledge are scaled, new ranges are seen in the distance. Universities must assist in exploring the unknown territory. The founders hoisted in western Canada the flag of democracy in

education. The statutory provision guarantees equal educational opportunity but it contemplates that only those who have the capacity to learn and the gumption to work hard can take advantage of it.

A university is essentially a society of scholars. The University of Manitoba has on its staff graduates of approximately fifty universities of Canada, the United States and Europe. From different vantage points and with a varied background these teachers are perpetuating the finest traditions of universities. The University of Manitoba, moreover, has endeavoured to meet the needs of its constituency through professional schools and courses in applied science. Yet it has been a home of the humanities. The composition of this volume testifies to the University's attempt to reconcile the classical liberal education and professional and scientific courses. The University of Manitoba, supported by the people of the Province, has advocated in the discharge of its obligation to them that learning may be an end in itself and at the same time the handmaiden of society. The various branches of learning stand in vital relation one to another. To use an illustration of the historian Gibbon, they resemble "a vast forest, every tree of which appears at first sight to be isolated and separate, but on digging beneath the surface their roots are found to be all interlaced with each other".

Containing contributions from members of the Faculties and of the Affiliated Colleges, this volume presents a cross-section of the University. We believe that the affiliation of the denominational colleges with the state-supported institution is a source of strength for the University and that this variety in unity holds a promise of greater achievement and service.

Sixty years span an average human life but for a university this period is not long. A young university may take and enjoy the heritage from those who built the old foundations of learning; it must, however, forge its own traditions. This is a slow process in which staff, graduates and students engage. The early years of a university, in large measure, will determine its progress. On the occasion of its Diamond Jubilee, pride

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may be taken in the work and influence of the University of Manitoba. We commend this volume to its graduates and friends and to other readers for it manifests a maturity of scholarship more than worthy of its six decades. As a training ship on a voyage of discovery, may the University, ably manned, sail on to ports of truth and duty.

SIDNEY SMITH, LL.D., D.C.L.

June 28th, 1937.

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MANITOBA ESSAYS

MANITOBA SYMPHONY

WATSON KIRKCONNELL

I. THE HERITAGE

Andante

PROVINCE of plain and wood and Arctic seas,
Scant is the share of thee we yet have won—
Here on the prairie's bright immensities
Where, under breezes that are never done,
Thy rippling tides of grain in glory run
To break round island-bluffs, jade-cliffed and high,
Poplars green-gold athwart the evening sun,
And homesteads in the wind-break warmly lie
With evening spires of smoke that seek the sapphire sky.

Broad streams, deep-valleyed in thy fertile clay,
And fringed with stately cottonwoods, move slow
And muddy-bosomed on their turbid way
By towns and teeming cities, on below
Bridges and causeways, gliding to bestow
Their silty tribute in some shining lake,
Wide as Nyanza or Ontario,
Where billows that the hither winds awake
On far-off, unseen, rocky coast-lines surge and break.

To northward sigh thy forests, twice as far
As Hebron to Aleppo, leagues untold
Of spruce and pine, whose gloom crepuscular
Is paved with moss and fern, beneath whose mould
Sleeps a deep store-house of primordial gold
Hid in the granites of a timeless past,
A heritage of treasure that was old
Before the white Himalayas reared their vast
Sky-piercing pinnacles to flout the Monsoon blast.

Beyond thy farthest forests yet, there spread
Bare, treeless wastes of marsh and lichen stone,
With frost forever torpid in its bed
Of pallid sphagnum; and there comes the moan
Of barren Arctic waves forever blown
To drench the crags of coasts without a name;
While high across the northern night are flown
Slow, ghostly banners of Auroral flame,
Lighting a formless land eternally the same.

Throughout this realm, the Redskin used to rove
In south and north; here came the questing Scot
In search of peltries, and in season strove
With jealous voyageurs; till time begot
The tilth of fertile plains, an ampler lot
That from the farthest coasts of Europe drew
Teuton and Slav and Magyar, doubting not
That them the unhandselled Paradise would endue
With homes as brave as aught that our first parents knew.

II. WESTERN FARMER, NEW STYLE

Allegro

On prairies wide as steppe or veldt
A hard, frost-bitten farmer dwelt,
John Smith by name, a man as gaunt as
The John that fondled Pocahontas,
And grim in visage as a cliff
Wave-carved with Arctic hieroglyph.
His farm lay (when I start my ditty)
Six muddy miles from Rapid City,
In which sad hamlet he would sell
His harvest, if the year went well.
He had a wife, a cheerful dame
Whom no adversity could tame.
No sons had she; the years had brought her
No children but a single daughter—

Valeria, a mournful vestal
Whose life was anything but festal.
Two hired men the home complete,
With grizzled heads and miry feet.
Big Bill and Oscar had been barmen,
Consule Roblin, out in Carman,
Well-read, in days before the smash,
In campaign literatures of cash,
But drabber days and dryer neighbours
Had brought them down to rustic labours.

John Smith had gained, by indirection,
The ownership of one whole section,
But all the harvest he could get
Could scarcely keep him out of debt;
For rust and weeds and hail and drought
Conspired to wipe his profits out.
Wheat was his passion, wheat his pride,
On wheat each year his hopes relied
To pay his bills and make him wealthy,
Instead of which, though dourly healthy,
He saw some plague each season stop
The promise of his one big crop.
Undaunted, faithful to the soil,
John still maintained unceasing toil;
Sheer, native courage kept him sweet,
Though dogged by fear of stark defeat,
Lest he should end, for all his grief,
Bankrupt, in Brandon, on relief.

But moods of threatening and slaughter
Arose within his ill-clad daughter,
Who slipped away to Winnipeg
With all the dollars she could beg
From a reluctant mother's purse,
A mother fearing ways still worse.
Henceforth more cheerful is my tale;
Our heroine was far from frail;
And in the course of time, Valeria,

Working in Eaton's cafeteria,
Grew in acquaintance day by day
With a sagacious B. S. A.,
A Highland red-head, Saul MacTavish,
Homely and honest, far from lavish,
But keen in zeal as any vulture
In scientific agriculture.
In scarcely any time at all,
Valeria was Mrs. Saul,
And touched with filial affection
Asked him to give her dad direction.

Then he, with all his shrewd devices,
Studying trends of crops and prices,
Foresaw that farming, blind and lax,
Would bring a world-wide dearth of flax
And raise such prices high and thrilling,
That men with flax could make a killing.
"Six hundred acres, strong and healthy,"
Said he, "would make a farmer wealthy.
Just get your pa to take this tip:
He'll come through like a battleship!"

John put his whole farm into flax,
Scorning his neighbours' witty cracks
About the ignorance of scholars—
And cleaned up twenty thousand dollars.
Laughing, not far from sudden tears,
His first real laugh in forty years:
"Friend son-in-law," said he to Saul,
"For downright brains, you beat us all.
But now I'm rich, what shall I do
With all this cash? I'm asking you."

Once more the youth took time to ponder.
"A man," quoth he, "with cash to squander
Should put it all in nickel, for
I smell a European war."

At once John hastened to invest;
A city broker did the rest.

He placed his dollars all in pickle
In preferential shares of nickel;
And lo, on the ensuing Monday,
They split the stock six ways for Sunday.

John's agricultural days are over;
Out at the coast he lives in clover,
Plays golf with prim Victorian friends,
And banks unfailing dividends.
The moral here need not be pressed.
Throughout the history of the West,
Often, a balance, frankly struck,
Would find cupidity and luck
And ignorance in close alliance,
Unleavened by the light of science.
Had wisdom been less transitory,
The West might tell a different story.

III. UNDER THE DOME

Scherzo

The hall they met in, like some classic fane
Was reared majestic by that prairie stream:
Vast fluted pillar, sculptured colonnade,
And arches of white marble thrust aloft
To where upon a dome's high crown stood poised
A golden Hermes. Through cool corridors
Of jacinth and chalcedony, by stairs
Of porphyry, with candelabra decked
And stern bronze bison, strode the Conscript Fathers
In milky togas to their grave debate.
About their chamber hung rich tapestries
Adorned with many a scene: In bracken coverts
A lion couchant, while across a brook
Stand lush young willows and the angry stubs
Of thunder-smitten oak, defiant yet.

But if that Senate-house should open wide
Its ponderous and marble jaws to broadcast,
What accents would men hear? Sure, noble words

From some lush throat, and, as it stopped for breath,
The comments of its weary auditors
Like linnets in the pauses of the wind—
Bitter half-truths, unjust *in vacuo*,
But blending justly with the panegyric:

"No province, Mr. Speaker, can compare
In soil and mines and men with Manitoba,
The rarest jewel in the British crown.
Our wheat is rated first in all the world,
The paragon of cereals; and our butter
Eclipsed the universe at Toronto Fair. . . ."

("The hard wheat country's well-nigh petered out,—
What between drought and drifting and the years
The exploited fields have gone unfertilized.")

"Our Northland is an Eldorado, rich
In gold and silver ores, beggaring description!
Yes, Mr. Speaker, Milton's gorgeous East
Showered upon no kings such treasures rare
As Flin Flon, Sachigo, and White Mud Falls. . . ."

("He names some paying mines, but plenty more
Were merely framed to rook the gullible.")

"Here is the future centre of the world,
The destined capital of one great state
For all who utter English. Here the best
From God's Imperial Islands came of yore,
With sapient Yankees out of Massachusetts
Seeking in faith the true North strong and free;
And Bluenose heroes wrought here side by side
With kingly souls from Huron, Grey, and Bruce. . . ."

("The latest census shows the Anglo-Saxons
Not half our population, and their births
So few they'll vanish in a century.")

"Consider further, gentlemen, how great
Are all our industries! Our flour and lard,
Bacon and native beer, and furniture,
Gas-engines, sewer-pipes and sauerkraut
Here blossom into wealth and affluence,
Nursed by the cheapest power in the world! . . ."

("We're losing population steadily.
Ten thousand families are on relief
Right here in Winnipeg, and we have thrown
Well over eighty millions in that pit
Since '29. If Ottawa keeps on
Shirking its duty towards a federal problem,
This town will soon be dead as Casey's cow.")

"Oh yes, I nigh forgot another thing:
We know we have a university
Second to none on earth in reputation.
Our faculties regale the service clubs
With noble thoughts, confirm the Board of Trade
In its grand projects, and instruct the young
With all the inspiration of a staff
Whose names are known from China to Peru. . . ."

("Our best men always leave us. Loss of funds
Was bad enough; but plots in real estate,
A generation back, so prejudiced
Our counsels that a fateful choice of site
Will dog the institution for all time.")

And so the voice goes on into the night,
Its unctuous honey slashed with gout of gall,
Half-truth with half-truth mingling, hour by hour,
Until the Dome's high light no longer blinks
And even orators must yield to sleep.

IV. CONSECRATION

Adagio

The Red Man passes like the lordly bison
That once he slaughtered with exultant cry;
Nothing endures except the dim horizon,
The vast, green steppe-lands and the high blue sky.

Assiniboine and Sioux are vanished faces,
And now the Celt and Saxon likewise wane,
Passing away and leaving other races
To rule the ancient marches of the Plain.

The pioneers depart; they yield to nations
Whose loins have not forgotten to beget;
Until our fading names and generations
Are one with Bohun and Plantagenet.

What shall we leave to those who follow after?
Shall we be laughing-stocks of stupid greed?
Shall we be thought of with derisive laughter?
Condemned by those we cheated in their need?

Shall we be known in shame as those who hasted
To gut the mine and loot the fertile soil?
Shall we be cursed for forests we have wasted,
Preferring headlong gain to patient toil?

Shall we be called Philistians, fat and venal,
Whom God at length demolished in His wrath,
Deserving by our pride His justice penal—
Dull, heedless lords of Askalon and Gath?

Or shall we leave here, when our day is ended,
A spiritual flame that cannot die,
Traditions of the mind devoutly tended,
A torch for other hands to carry high?

Shall we, for love of truth intensely burning,
In zeal for good and beauty for mankind,
Further that ancient quest for higher learning
That is the noblest effort of the mind?

For thus men yet unborn might still remember
With grateful hearts the builders of the West;
In many a far-off April and December
Their lips would name the leaders of that quest—

Who sought to know and utter light and sweetness,
To cleanse the mind and set the conscience free,
To nurture human life in its completeness,
Led by a virile university.

And only by such ardent legionaries
Can thought's emergent empire be made good,
Blending the threescore races of our prairies
Into a stream of living nationhood.

THE HISTORY OF THE UNIVERSITY OF MANITOBA

A. B. BAIRD

THE FOUNDATIONS

IN THE Canadian Northwest the scattered families found it desirable in pioneer days to have their children educated locally. For this there were several reasons. The distances to places where education was available were great. The time and expense involved were prohibitive. Many of the boys and girls were the children of native mothers and it was an embarrassment for them on account of the colour of their skins and their unfamiliarity with English speech. They were wild young things, children of the wilderness, and the proprieties of a residential school, e.g. in Scotland, would have had no relation to their life before and after.

There was thus an early demand for local schools. "Local" meant the Red River Colony, which was the largest nucleus of settlement in the country, and the boys who came from the trading posts of the Hudson's Bay Company, a hundred or a thousand miles away, were still in an environment which had some similarity to their homes.

Here in 1818 Father Provencher opened the first school, in what is now St. Boniface, in a building erected for the purpose, though still incomplete. This school did not operate continuously but was revived as occasion demanded and as a teacher was available. As early as 1820 two boys had begun the study of Latin. It was the ambition of the priests to find an Indian boy of intelligence who would prove to have the necessary vocation, and who as a priest would be a missionary to his own people. A little later Father Lacombe, accompanying the buffalo summer hunt and holding a school at intervals, had a boy who studied Latin under his guidance. Many were called but few chosen.

The St. Boniface School began to receive boarders in 1827. This may be called the beginning of St. Boniface College. A new building 18 by 15 feet in size was erected in 1833 on a site in front of the present cathedral, and as the school developed the Bishop made attempts to have it placed under the care of a religious teaching order. After several disappointments the Frères des Écoles Chrésiennes came in 1854 and for them a new two-storey building 60 by 34 feet in size was completed in 1857. The Bishop and City of Montreal had made this undertaking possible by a gift of £364. This building was the home of the College till 1881. The Brothers of the Christian Schools left in 1860 and the Bishop, anxious to have the school under the members of his own order, placed it in charge of the Oblates of Mary Immaculate. The school was in charge of Father Lestanc for eight years, of Father Lavoie as his successor and of other well-known names, among them Monsignor Cloutier, Father Georges Dugas, Father Jutras, Father Messier, Monsignor Cherrier and Father Allard. When the time came for affiliation with the University in 1877 the College had an enrolment of 150 students and a staff of nine professors.

From an early date the Roman Catholic Church gave attention to the education of girls. In 1824 Bishop Provencher made overtures to Louis Nolin, a retired officer of the North West Company, living at Pembina, asking him to allow Angelique, one of his five daughters, to come to Fort Garry to open a school for girls. Angelique, born in the West, had been educated in Quebec, but her father would not consent. It was only in 1829, after his death, that Angelique and her sister came to St. Boniface and opened a school, which they conducted for fifteen years.

A few years later a new enterprise was undertaken. On account of the remoteness of the Red River Settlement from industrial centres, the community was obliged in large measure to provide for itself in the matters of clothing and domestic supplies. To meet these needs an industrial school for girls was opened in which weaving and other household arts had

a prominent place. Sir George Simpson, the governor of the Hudson's Bay Company, assisted this undertaking with Company funds, and brought out two women who were equipped to give training in household science. He provided their salaries for two years on condition that the mission provide a building for the school. Down to the time of the destruction of its equipment by a fire in 1839 this school did good service.

It was the aim of Bishop Provencher to place the tuition of girls under one of the orders of nuns devoted to such service, and he made application in various quarters including St. Louis, Louisville, Cincinnati and Montreal. In Montreal he was successful. The Grey Nuns, encouraged by Bishop Bourget, responded to his appeal. In June 1844 four of these nuns arrived and opened a school with sixty pupils, and by 1858 there were three convents giving service. Somewhat later, in 1874, the Academy now known as St. Mary's was opened by the Sisters of the Holy Name of Jesus and Mary. As the Women's Division of St. Paul's College, it is now affiliated with the University.

The Hudson's Bay Company in 1820 sent out the Rev. John West, an Anglican clergyman, to minister to the religious needs of the Selkirk Settlers. It was part of his duty to establish a school for the benefit of the children of the community, and in due course he reported that he was erecting a building for the reception "of as many boys as British benevolence would enable me to support." This school was established on a site donated by the Hudson's Bay Company, where St. John's College now stands. It was co-educational in a limited sense, the boys being taught by George Harbridge and the girls by his wife. Provision was made in a residence for pupils from a distance and the programme included training in agriculture. The Rev. D. T. Jones arrived in 1823 and became superintendent of the school, and two years later the Rev. William Cochran took his place while Mr. Jones was absent for a year in England. On the return of Mr. Jones, Mr. Cochran moved down the river to St. Andrew's, where he

established a second school in 1827 and where Mrs. Cochran was the teacher of the girls.

Two other schools were opened, one farther down the river and another on the east side opposite the present site of the Kildonan Church. With these tributary schools the parent establishment in St. John's grew in importance and became the Red River Academy. It furnished training of a more advanced type under the Rev. John McCallum, a graduate of the University of Aberdeen, who arrived in the colony in 1833 and continued in charge until his death in 1849. During his regime the Academy prospered and held a large place in the community life. The first Bishop of Rupert's Land arrived in 1849 and gave the Academy a large share of his interest and attention. He placed it under the care of George Pridham and Thomas Cochran, and himself took a share in the teaching. He gave it the name of St. John's College and chose its motto: "In Thy Light shall we see light." He enlarged its scope and planned to make it a training college for Anglican clergy, as well as a secondary school. By way of widening the interest in it a College Board was formed in 1855 and leading laymen in the Settlement were called to share in its government. But the time was not ripe for so ambitious a project; the attendance dwindled and the school had to be closed.

The school which benefited by the failure of St. John's was the one founded in East Kildonan in 1826 by John Pritchard, who had come from England about the year 1880. This school was well conducted and in 1865 was enjoying the height of its popularity when Bishop Machray arrived. One of the projects to which the new prelate set himself was the establishment of a school in every parish and especially the revival of St. John's College. He wrote to Prebendary Bullock in England: "I believe that the whole success of my mission here will depend, under God, upon the success of what I purpose—to establish a College for those who wish a higher education." His plan was an institution which would have a college with two departments—a

theological seminary and a high school. On his invitation, Mr. Pritchard gave up his boarding school in St. Paul's parish and transferred himself with as much of his clientele as was transferable to St. John's. The reorganized school was opened on the 1st of November 1866 with three theological students and nineteen in the College school. The teachers were Bishop Machray himself, Archdeacon McLean and Mr. Pritchard. Archdeacon McLean, later Bishop of Saskatchewan, was a graduate of Aberdeen University and a man destined to fill a large place in the life of the West. He was made Warden and the school, as far as the Archbishop would allow, was modelled on the lines of an English public school.

The Bishop, profoundly interested in education, watched with more than a father's solicitude the progress of urchins in classics and especially in mathematics, with a rude awakening now and then. He discovered that the only things in which they were really interested were horses and canoes and snow-shoes. He long indulged the hope that St. John's would be the chief source from which clergy would be supplied for what he foresaw were going to be the needs of a widespread and rapidly growing population. These hopes were realized in pupils who were destined to become leaders, like Archbishop Matheson, W. R. Flett and Robert Machray, but such cases were few. The Bishop devoted himself with untiring energy to the task of putting his college on a secure financial and scholarly footing. Everything that could be done to stimulate local interest was done, the English missionary societies were appealed to, the church in Eastern Canada was urged to assist. The school had an increasing patronage and in succeeding years the numbers increased yet further. The building was enlarged and refitted and professorships were endowed. When Manitoba was erected into a province, St. John's asked for and received a charter at the first meeting of the legislature in 1871. In that year the college had sixty resident students and several day boys. They were under the care of seven instructors.

So that when in 1877 it was proposed to establish a Uni-

versity, St. John's College was well organized and qualified for affiliation.

The first girls' school under the care of the Church of England was opened by Mrs. Jones, wife of the Hudson's Bay Company's chaplain, in 1829. The location of the school was on the south bank of the stream south of St. John's Cathedral. A governess was sent out from England soon after Mrs. Jones' death. Mrs. McCallum supervised the school and then Mrs. Mills. Under Mrs. Mills the school prospered to such a degree that a new building had to be erected on a nearby location. The school was patronized chiefly by the daughters of Hudson's Bay Company officials and by the daughters of settlers who had not school facilities within their reach. Its support was precarious and some time after Mrs. Mills departure the school had to be closed in 1858 for lack of funds. The Misses Davis came to the rescue and opened a school in their home in St. Andrew's. They gained so good a reputation and were so popular that they were able to erect a stone building for their school and the Hudson's Bay Company in appreciation of their good work made a grant to the building fund.

The Presbyterian settlers in Kildonan opened their first public school in Kildonan in 1847 in the home of John Flett, with John Inkster as teacher. A log house was built in 1849 just north of where Kildonan Church now stands. In its earlier stages this school was supported by voluntary subscriptions and the first building was erected without outside aid. When the Rev. John Black, the first Presbyterian minister, came in 1851, the community services of the parish developed with new vigour and the school received a grant of £15 from the Council of Assiniboia. The log school-house served its purpose till 1864 when it was replaced by a stone building, erected under the supervision of the Rev. James Nisbet, who had come to supplement the labours of the Rev. John Black among the Presbyterian settlers. This building still stands. It is known as Nisbet Hall and is used as a community centre.

Soon the Kildonan settlers began to agitate for a secondary

school and in response to their appeals the Foreign Mission Committee (Kildonan being a foreign land outside of Canada) of the Presbyterian Church in Canada sent David B. Whimster to undertake advanced work in the school by way of preparation for what it was hoped would develop into a Presbyterian College. One of the two rooms in the Kildonan school was assigned to him and he formed classes in 1869 in Greek and Latin and in the more advanced departments of mathematics. Dr. Black helped in the school, taking a share of the work nearly every day. Mr. Whimster returned to Ontario in 1871 and in November of the same year Dr. George Bryce arrived and found a class of High School students, which in the course of the winter increased to seventeen. This was the foundation of Manitoba College. Dr. Bryce paid a visit to Ontario in the summer of 1872 and a union between the Canada Presbyterian Church with the Church of Scotland in Canada being under consideration the Synod of the "Auld Kirk" accepted his suggestion of co-operation in Manitoba in anticipation of the union, and sent the Rev. Thomas Hart to share in the work of the college. Dr. Hart taught French, Greek, and Latin, Dr. Bryce had charge of English and Science, while the mathematical subjects were taught by temporary and usually part-time helpers.

For the first winter the College was accommodated in the Kildonan School. The next year the house of Donald Murray, a settler, was secured. In 1874 the College removed from Kildonan to Winnipeg and secured a site on the corner of Henry and Main Streets, where the College erected a larger building to accommodate the classes and also to provide a residence for the students. The coming of the Canadian Pacific Railway, which laid its tracks alongside this building, made it undesirable for academic purposes and the College found itself obliged to move.

In 1876 the College had an attendance of 126 and was ready to welcome the formation of a union project, along university lines, in which its two professors were among the chief promoters.

Wesleyan missionaries from England came to the Canadian West in 1840 but restricted their energies to work among the Indians and made their headquarters at Norway House, north of Lake Winnipeg. It was not until 1868 that the Rev. George Young, sent by the Methodists in Canada, came to the Red River Settlement and built a church in what is now Winnipeg. The first Methodist Conference in 1872 "drew the attention of the church to the desirableness of an early effort to establish a college at Winnipeg". Sir Donald A. Smith for the Hudson's Bay Company promised a free site conditional upon the raising of money for a building, but the necessary funds could not be secured. In June 1873 Mr. Young appealed to the Methodist Conference meeting in London, Ontario, and was authorized to collect money in Eastern Canada for a College. His efforts were successful in securing subscriptions amounting to \$6,000 and on the third of November in that year the Wesleyan Institute was opened in a building adjoining the first Grace Church on the east side of Main Street at Water Street. The building and its equipment cost \$3,000 and the curriculum provided for three departments—primary, intermediate and secondary. The principal was the Rev. Allan Bowerman and the enrolment at opening was forty. His successor in the principalship in 1876 was the Reverend T. E. Morden. But the institute was not successful in securing sufficient students or sufficient financial support and its doors were closed in 1877.

In the same year the legislature granted a charter to Wesley College, the charter providing for affiliation with the University when a certain number of professors were employed and a suitable building obtained. This charter was re-enacted in amended form in 1886, teaching began in 1888 and affiliation with the University followed. Loaned or rented premises were occupied for a few years and the Wesley College building on Portage Avenue was occupied in 1896.

In the early eighties the Baptists established a college at Rapid City under the name of the Rapid City Academy with Dr. S. J. McKee as principal. It did not survive, but at a

later date was resuscitated in Brandon as Brandon College, Dr. McKee being still active in leadership. In 1907 Brandon College, well entrenched by this time in the confidence and good will of the people of Brandon, made application to the legislature of Manitoba for the right to confer degrees. The application was vigorously supported by the City Council, the Board of Trade, the Brandon representative in the Legislature and by prominent citizens. There were letters pro and con in the newspapers. The University Council opposed the application on the ground of the desirability of having but one degree-conferring body in the province. The legislature treated the matter coldly and the application failed.

Unwilling to accept affiliation with the university, Brandon College made an arrangement with McMaster University of Toronto, now of the City of Hamilton, Ontario. Brandon teaches along the lines of the McMaster curriculum, conducts examinations on questions sent from the East and sends back the answers for valuation and then confers degrees in the name of McMaster.

The newly-formed Province of Manitoba passed its first Public School Act in 1871. It was a thorny subject. The legislators were restricted by the provisions in the Manitoba Act, about the preservation of the French language and they had to face the prejudices of those of the people who were accustomed to voluntary schools. The act provided for two sets of schools, Protestant and Roman Catholic, under a Board of Education which carried on its work in two sections. The act was unpopular and inefficient. The prominence given to the distinction between Roman Catholic and Protestant accentuated denominational prejudices. Where Roman Catholics were in the minority they refused to send their children to a Protestant school, and vice versa, with the result that many children had no schooling at all. Where Protestants and Roman Catholics were nearly equal and there were two schools, these were nearly always less efficient than if there had been one larger school.

The act was amended yearly but its unsatisfactory character

continued to be criticized. Yet in spite of all, the number of schools grew by the influx of population. When the act was passed the Board of Education took over thirty-three parish schools, sixteen Protestant and seventeen Roman Catholic. In 1877 there were sixty-nine public schools, thirty-eight Protestant and thirty-one Roman Catholic. The act concerned itself only with elementary schools. It made no provision for secondary schools, nor for the training of teachers.

THE BEGINNINGS

The population of the Province of Manitoba in 1871, according to the official census, was 25,228. Of this, 7,798 were white, 7,590 were Indians and 9,840 were partly Indian. In 1876 when the purpose to found the University took shape the white population must have increased somewhat by immigration. It was not, however, until 1879 that anything like a strong stream of new-comers from Eastern Canada began to flow into this country. It was surely a bold enterprise for a few educational enthusiasts to plan a university for a constituency of less than 10,000 people. But ventures of all sorts were in the air. There was supreme confidence that a country with such an area of fertile soil and such an exhilarating climate must soon have a great population now that contacts with the world's markets by railway were near at hand. Optimistic enterprises, each eager to be the first in the field, were organized. Many of them were born before their time, and the infantile mortality among them was shocking; but some survived and having passed the early critical stage flourished exceedingly. It was in this atmosphere that the University of Manitoba was born. It did not arise to meet what the economist calls "a felt need". The public did not clamour for a university. The colleges did not ask for it. They had the burdens and problems of the present pressing heavily upon their shoulders and absorbing all their energies. When there was any discussion of the future it was in a strictly academic sense and without any expectation of immediate action or demand for such a thing. It is true that the Bishop of Rupert's

Land said in public that he would like to see some means by which the young men whom he was training for the Anglican priesthood, could receive an academic degree, before proceeding elsewhere for what ought to be called post-graduate studies, but he did not follow up this pious hope with any concrete plan for immediate action.

Here, then, was the situation—the public uninformed and not interested, the colleges fully occupied with their own affairs, discussing now and then the prospect of an institution of higher learning but not yet, the government with no plan for a university and no money for one. Yet within a year a charter for a University was adopted by the Legislature, and steps were taken to put it in operation.

The man who brought about this change was the Honourable Alex Morris, Lieutenant-Governor of the Province from 1872 to 1877. He was well fitted by training, experience, tastes and position for the undertaking. Himself a University graduate, his interest in the problem of education had led him into the discussion of the separate school question in Ontario. He had acted as one of the Governors of McGill University, and had been chairman of the Board of Trustees of Queen's University. From the time of his arrival in Manitoba he watched with interest the work of the schools and colleges.

The difficulties in the way of establishing a university were serious enough, but it is creditable to the skill and diplomacy of the Lieutenant-Governor that they did not prove unsurmountable. There was not a High School or a Collegiate institution in the Province. All secondary school education was in the hands of the Colleges which had been obliged to establish preparatory classes for their college work. It was clear that any plan for a university must have the freely given co-operation of the colleges. That could be expected from the two Protestant colleges, St. John's and Manitoba. The other college, the oldest in the West, was Roman Catholic, whose methods of teaching in some respects and whose curriculum and examinations in many respects were different from the others. Here was room for mutual understanding

and mutual concession. All interested parties showed a desire for discovery of common ground and a satisfactory basis was found with a minimum of debate and so far as the records show with no friction. What was required was to show the denominational colleges that their rights and privileges were preserved intact, and at the same time to give a free hand to the University to fulfil essential university requirements. And it certainly was a happy result of this concord that Manitoba thus early in its history came into possession of the framework of a university which secured that there should be only one body within its bounds entitled to confer academic degrees, and so a decent standard could be maintained. Those were the days when any group of men, apparently, could get from the Legislature a College charter, even when they had only the most nebulous hope of acting upon it, and as a matter of fact did not always act upon it.

It is to the credit of Lieutenant-Governor Morris that as he now and then admitted in conversation, he was able to round out his term of service (he retired from the governorship in 1877) with the fulfilment of his ambition to secure for the Province of Manitoba a university in which the colleges could play their part and in which there was room for future affiliations and future expansions.

In the speech from the throne in the Manitoba legislature on the 30th of January, 1877, the Lieutenant-Governor read a paragraph about the University:

"In view of the necessity of affording to the youth of the province the advantages of higher education, a bill will be submitted to you providing for the establishment on a liberal basis of a University for Manitoba, and for affiliation therewith of such of the existing incorporated colleges as may take advantage of the benefits of the University. Provision will also be made in the bill for the eventual establishment of a Provincial Normal School for teachers. I regard this measure as one of great importance and as evidence of the rapid progress of the country towards the possession of so many of the advantages which the older provinces of the Dominion enjoy."

The Honourable Joseph Royal who presented the bill said:

"The Government have been urged during the past two years to submit a measure for the institution of a University and the Government have consented and in so doing have endeavoured as far as possible to meet the views of the different parties seeking the establishment. The Government thinks the bill premature, but have been so repeatedly urged that they have brought it down. The bill only provides for a University to grant degrees and for graduating purposes, but it will not be a teaching institution. The bill, however, provides that hereafter chairs may be attached and endowed and it become a teaching institution as well.

The preamble to the Act reads:

"Whereas it is desirable to establish one University for the whole of Manitoba (on the model of the University of London) for the purpose of raising the standard of higher education in the province, and of enabling all denominations and classes to obtain academical degrees, therefore, etc."

The bill did not excite much public attention. One searches the files of the newspapers of the time in vain to find any expressions of opinion for or against the new University. Manitobans occupied eagerly with the things of the present did not see in this new organization anything very extraordinary. But it was otherwise with visitors from abroad. Lord Dufferin, the Governor-General and Dr. George M. Grant, Principal of Queen's University, were astonished at this achievement.

Lord Dufferin in a speech in Winnipeg in September 1877 spoke thus of it:

"In no part of Canada have I found a better feeling prevailing between all classes and sections of the community. This widespread sentiment of brotherhood is finding its crowning and most triumphant expression in the establishment of a University, under conditions which have been found impossible of application in any other province of Canada—I may say in any other country in the world—for nowhere else, either in Europe or on this continent, as far as I am aware, have the bishops and heads of the

various religious communities into which the Christian world is unhappily divided, combined to erect an Alma Mater to which all the denominational colleges of the Province are to be affiliated and whose statutes and degrees are to be regulated and dispensed under the joint auspices of a governing body in which all the churches of the land will be represented."

Principal Grant, who was a frequent visitor to Manitoba, wrote thus in 1882:

"Manitoba has shown that it is possible to organize University education on a basis that does equal justice to denominational and to non-denominational effort. The harmonious co-operation of the colleges and their willingness to make changes in their respective ideals, are signal proofs of the wisdom and catholic spirit of the men who govern them. Thus, St. Boniface College introduced more mathematics and more of physical and natural science into its curriculum than the Archbishop thought desirable in order to meet the views of the other Colleges. Manitoba College again gave more prominence to classics than it might otherwise have done. The tolerant spirit of the Council is also shown by its allowing separate papers on logic, natural and moral philosophy and history to be set for the students of St. Boniface, who come up to the University examinations. Educational problems considered insoluble in other countries and provinces have thus been quickly solved in Manitoba. The evil spirit of sectarianism has been exorcised, not by the ostrich-like wisdom of ignoring sects, but by frankly acknowledging the good work they have done, and securing their co-operation in common subjects. Justice is done to all and in consequence colleges with different histories, ideals and modes of government gladly send their alumni to one centre to be stamped with the common stamp of the University of Manitoba."

The significance of these paragraphs will be better appreciated when it is remembered that Lord Dufferin and Principal Grant were men skilled in public affairs and with unhappy memories of countries which had not succeeded in doing what Manitoba had achieved.

The phrase "on the model of the University of London", was the subject of some comments. The University of London

in 1877 was an examining and degree-conferring body, doing no teaching, and the clause had been inserted on the suggestion of Archbishop Taché, who had had an opportunity of examining the calendar of that University and thought it furnished a workable basis for Manitoba. Others laughed at the phrase as unduly ambitious and Archbishop Machray, with Cambridge ideals in his mind, disliked it and at a later date welcomed its omission. It is quite possible that a high-sounding phrase like this helped some otherwise unconvinced member of the Legislative assembly to vote for something that would bring the Red River into line with the big world.

The Governor in his anxiety to see his favourite project become law is alleged to have transgressed the limits of gubernatorial isolation and to have done some active canvassing among the members. At any rate the bill passed without opposition and without much discussion and was approved on the 28th of February 1877.

The machinery for carrying on the work of the University was simple and easily put into operation. The Act provided for a Council consisting of twenty-eight members, a Chancellor, a Vice-Chancellor, seven representatives from each of the affiliated colleges, three from the Convocation and one each from the Protestant and Catholic sections of the Board of Education. The Chancellor and Vice-Chancellor were in the first instance to be chosen by the Lieutenant-Governor-in-Council, but their successors were to be chosen by the Council. There was of course, to begin with, no Convocation, but by advertising and other means of publicity University graduates resident in the Province were invited to register with the University *ad eundem gradum*, and in a short time the University had a considerable number of foster sons. Provision was made for the affiliation of colleges other than the three then in existence. They might be admitted by the Lieutenant-Governor-in-Council to a position similar to that held by the three Colleges named in the Charter. The Council was to have the entire management of the affairs of the Uni-

versity, subject only to the approval of the Lieutenant-Governor-in-Council as "Visitor".

Thus then the University started out on its career as a confederation of existing colleges, each agreeing to continue its responsibility for teaching, and each agreeing to submit its under-graduates annually or semi-annually to be examined and graded by an independent board of examiners in the hope that uniform and at least reasonably high standards of education would be preserved and the reputation of the Province built up, so that parents could send their sons for local training in the confidence that the education they received would be recognized in other provinces. Of course the real contribution of the new University was in the hands of the denominational colleges. Supervision by the Visitor was entirely nominal. The Colleges had not only a large numerical majority in the Council, but their nominees were for the most part members of the staff and professionally interested in higher education, as compared with the representatives of convocation and the boards of education, whose primary interests usually lay elsewhere.

It was rather a perfunctory blessing which the Government pronounced upon its infant. The Honourable Joseph Royal, Attorney-General, in introducing the bill in the Legislature, said: "The Government thinks the bill premature but the members have so repeatedly urged it that they have brought it down." The modest sum of \$250 a year which they voted for the maintenance of the University may be taken as indicating the extent of their enthusiasm. The Colleges cheerfully shouldered the burden of teaching now adapted to the requirements of the new curriculum, took the \$250 a year, and with a small fee exacted from the students for their examinations paid all the expenses of this most modest of Universities.

THE PRE-TEACHING DAYS, 1877-1900

The University Council as authorized was soon in working order. An order-in-council named the Bishop of Rupert's

Land as Chancellor. The Council elected the Hon. Joseph Royal as Vice-Chancellor and Major E. W. Jarvis as Registrar. The first registration of students was a very informal affair. Robert Machray, nephew of the Chancellor, in the *Life of Archbishop Machray* describes the scene:

"Shortly after the first meeting of the University Council the Bishop sent for him (then a theological student in St. John's) and told him to go with the other theological students, three in number, and the two head boys of the College School, to the residence of Major Jarvis, the Registrar, to be matriculated. The small band of six, nothing loath, but hardly realizing the dignity of their position as the first under-graduates of a university destined some time to be great, walked from St. John's across the snow to Point Douglas, Winnipeg, where Major Jarvis lived. Finding him at home, the writer, who acted as spokesman, told the Major of the nature of the business on which they had come, whereupon he smiled, and looked a little blank, observing that there was no University Register in existence. However, he was equal to the occasion, produced a half sheet of ordinary writing paper and bade them inscribe their names on it."

The first meeting of the Council was held in the Court House (on Main Street near where the City Hall now stands) on the fourth of October 1877. Later meetings were held in the offices of the Board of Education or in the quarters of the Historical Society. The Council arranged that several departments of its work should be carried on by standing committees. The most important of these was the Board of Studies, which was in the main the executive committee of the Council and made plans for courses of study, for examinations and for administrative work generally. This Board of Studies was composed of two members nominated annually by each college, and two by the University Council.

The first major undertaking was the arrangement of the curriculum. The subjects studied in the affiliated colleges differed materially and the relative importance assigned to each differed even more, but agreement was reached and in the main the courses of study pursued in the English colleges

was agreed upon, the expert knowledge of the Bishop of Rupert's Land proving valuable. For the Bachelor of Arts degree there were to be three examinations.

The course of study required of students in what is called the Preliminary Year covered a wide range of subjects, and the requirements were sufficiently high to entitle these subjects quite legitimately to hold their place in a university curriculum. The subjects were Latin, Greek, Arithmetic, Algebra (including indices, surds and quadratic equations—the first three books of Euclid with examples and deductions)—English, French, German, History (Greek, Roman and Canadian), Botany and Geography (commercial, physical and mathematical). Of course students were not required to qualify in all these subjects. There were several options—Greek for instance was not obligatory, but the student who did not qualify in Greek must take two subjects in its place, French and German, French and Botany or German and Botany.

The training in Latin involved the reading of two authors, translation of an unprepared passage, in which, however, help was given in the examination paper by furnishing the translation of a few of the less common words. There were also tests in grammar and in translation from English into Latin. In French the course involved a translation from French authors, a knowledge of grammar and translations of unseen passages into English, besides translation from English into French. The English requirements involved a knowledge of the works of several authors, prose and poetical, grammar and rhetoric, and an essay. In Botany the main dependence was on book work, but specimens were submitted for identification and description.

In the "Previous" year there is more advanced work in the languages, Trigonometry taking the place of Arithmetic; Chemistry is begun and Physiology takes the place of Botany. In the two advanced years which follow, the student may specialize by taking an honour course in Classics or Mathematics or Mental and Moral Philosophy or Natural Science or Modern Languages (English, French and German), or he

may take a general course. Those who take the honour courses are required to take also brief studies in certain fixed subjects as Ethics at some time or other during their two B.A. years.

In the matter of estimating the progress of students there was a decided difference in the usages prevailing in St. Boniface College as compared with St. John's and Manitoba colleges. St. Boniface followed the method in use in the French colleges in Eastern Canada, but in the generous spirit of compromise which marked the whole series of negotiations, St. Boniface gave way and the English method of written examinations and marking by percentages was adopted. The number of subjects in the Preliminary and Previous examinations was admittedly large—some professors thought the number too large—and by way of compensation the percentages of marks required for passing was made small—only 25 per cent. in each subject and 34 per cent. in the whole examination. In the special courses in the B.A. years, except Mathematics, 40 per cent. was required. A little later when the University conducted examinations in Medicine and Law 50 per cent. was required in each subject, and for the degree of Master of Surgery 75 per cent. was demanded.

One of the consequences of attempting to cover so many courses of study was that the professors and lecturers, few in number, were overworked. Many of the students came to the University with but meagre preparation, self-taught or coached intermittently by some kindly-disposed friend or neighbour. Such students, however promising, required careful supervision for a while at first until they acquired correct methods of study. And every professor had to spread his energies over more than one subject. There was no such thing as a specialist with only a single subject to teach. And it was no uncommon experience to teach from 9 o'clock in the morning till half-past three in the afternoon, with only one hour for lunch. It is true that most of the men were young and full of energy, endured their long hours cheerfully and did their work thoroughly. But human endurance has

its limits and occasionally a man found an easy way of escape. There is a story, only too well authenticated, of a professor who incurred the suspicion that he estimated the value of examination papers without reading them. A student, greatly daring, submitted on occasion a series of blank pages instead of the expected answers. In due course came the time for the report and the youth learned that his effort had won for him 62½ per cent. All who knew the circumstances agreed that this represented reasonably well the student's class standing.

It is to be remembered that all the teaching was done in the denominational colleges and that the professors in these early days were usually clergymen and were in demand on Sundays for service, some of them regularly, some occasionally.

While the University was still in its infancy it had the good fortune to receive a bequest of more than \$80,000 under the will of Dr. A. K. Isbister of London, England. Dr. Isbister was a native of the Red River Colony and had received his early education in St. John's College. Most of his life was spent in England, where he was Head Master of the Stationers' School, London, and Dean of the College of Preceptors. He retained an interest in his early home and kept in touch especially with its educational progress. He bequeathed the residue of his estate to the University of Manitoba, subject to a life annuity of \$300 to his two sisters Mary and Elizabeth. After some negotiation with the English representatives of the estate an arrangement was made whereby the money was invested in Manitoba, where a higher rate of interest was attainable, and it was placed in care of the Isbister Trust, managed by six trustees, three chosen by the University and three by the executors. The first revenue from the Isbister Trust was received in 1885 and was devoted to scholarships for students at the beginning of their University career.

This University overshadowed by its affiliated Colleges made little appeal to the public imagination as an object of material benefaction. The Colleges had academic buildings and residences for students, had well-known men as professors

and an increasing number of students. The Colleges received benefactions prompted by Church loyalty, by work actually and visibly being done, but the University, almost invisible and intangible, did not very loudly call for such gifts and of course did not get them. Failing help from such quarters the University fixed its hopes on the Government and aimed at getting a land grant which might ultimately become a source of revenue. In 1878 friends of the University appealed to Ottawa for a grant of land. In succeeding years this request was repeated by the University Council, by the Provincial Government, by Manitoba's representatives in the Dominion Parliament and by a memorial to Lord Lorne, the Governor-General, on his visit to Manitoba in 1881. The arguments adduced were that the University was the one university in the Province and represented all the people, that the Provincial Government had not the necessary funds, the control of lands being in the hands of the Dominion, that the public schools were assisted by a land grant, that the University of Toronto had a Dominion land grant. But it was not until 1885 that anything was done. A bargain, usually called the Better Terms Act, was enacted by the Dominion Parliament and ratified by the Provincial Legislature, one clause of which reads:

"An allotment of land not exceeding one hundred and fifty thousand acres of fair average quality shall be selected by the Dominion Government and granted as an endowment to the University of Manitoba for its maintenance as a University capable of giving proper training for that purpose upon some basis or scheme to be framed by the University and approved by the Government."

A committee of the University Council was appointed to work out the terms of the transfer and to arrange for the selection of the lands. There were vexatious delays in getting action. Delays on account of failure of the Dominion Government to set apart land from which choice might be made, delays by division of opinion in the Council, one party wishing to have the land grant exchanged for a cash subsidy, and it

was not until 1888 that the Committee was able to report that 14,000 acres had been selected and set apart. In order to secure for the University "land of fair average quality," as the Dominion Government had promised, it was necessary that a larger acreage than the grant promised should be open for choice. This was agreed to after some delay and with the assistance of a grant of \$4,000 from the Province to cover the cost of inspection, the task of choosing the land was completed in 1891. The next delay had to do with the form of the patent from the Crown. This was debated with the deliberation characteristic of negotiations with a government and at last in 1898 patents were issued and the land came into the possession of the University. The story of the land grant illustrates the patient persistence which the University Council had been obliged to display in achieving this one of its projects. It had taken seven years of urging to get the promise of the grant; six more years were spent in having the land allocated and now the issue of patents had involved seven years of negotiations. There was an interval of twenty years between the asking for the land grant and the getting of the land and even after title was granted the revenue from the land was small. Sales were slow and payments were spread in small sums over a lengthy period of years, while rentals for hay-cutting and wood-cutting privileges brought in very small sums.

While the endeavour to get possession of the land was going on, a new subject of debate arose, which overshadowed everything else. This was the agitation to have the University advance from its original status as an examining and degree-conferring body and become a teaching university. The Province was advancing rapidly in population and the demands for larger and better facilities of higher education were correspondingly increased. There was a demand for emancipation from ecclesiastical control as exercised by the denominational colleges. The public schools hitherto Protestant and Catholic, managed by two boards, had now become schools with no church affiliations and the sentiments which had

brought this about had influence in the University sphere. What was the University to do with the increased annual grant which the Government seemed willing to give, and with the income from its lands which was sure to grow and likely to grow rapidly?

The line for improvement seemed to be to develop the University into a teaching body. Could it do so under its present charter? The representatives of St. Boniface College said that they had joined the University on the distinct understanding and the assurance that it was to conduct examinations and to confer degrees and to do nothing else. They pointed to the age-long and well-known Roman Catholic tenet that the teaching of the young is the work of the Church and that in carrying out this duty the Church cannot tolerate any interference or any control by the State or anyone else. They would never have joined the University except upon the assurance embodied in the charter that its powers were limited and were to be limited to the two functions now exercised.

When the Council began to look into its powers as defined by the charter, it was found that there was an extraordinary element of confusion in its phraseology. Those were the days when in the Province English and French were both official languages, and every act of the Legislature had to be issued in both versions. It was now discovered that in the case of the University Act the English and French copies did not agree and that the feature in which they failed to correspond had a very important bearing on the matter now in hand. The explanation, so far as it can be explained, proved to be that the Act as submitted to the Legislature had the words "on the model of the University of London", in the preamble, and in section 10 the words, "there shall be no professorship or other teachership in the University, but its functions shall be limited to the examining of candidates for degrees and certificates in the several faculties." When the bill came up for consideration in committee, the words "on the model of the University of London" were dropped from the preamble, and the words "at present" added to section 10 (now numbered

section 5) so as to make it read, "There shall be no professorship or other teachership at present in the University, but its functions shall be limited to the examining of candidates for degrees and certificates in the several faculties." The Act in this form was signed by the Lieutenant-Governor. But the printed edition of the statutes as enacted that year mistakenly retained the words, "on the model of the University of London" but included the words "at present". The French volume of the statutes contained the words "sur le plan de l'Université de London" in the preamble and omitted the words "au present" from clause 5. These discrepancies were not detected at the time, but when the warrant in the Act for teaching in the University came up for discussion involving sharp differences of opinion, it was disconcerting to discover that of the three seemingly authoritative versions of the Charter no two were alike on this matter of primary importance.

The discussions in the University Council on the proposal to establish teaching were prolonged and were marked by intense feeling. From the first suggestion of teaching in the University, St. Boniface College had adopted an attitude of determined opposition, thus creating a line of separation from the Protestant colleges. It now became apparent that the Protestant colleges, while not opposed on principle to university teaching were by no means willing to hand over their work *carte blanche* to the University. They wanted some kind of understanding or possibly a guarantee in order that the teaching in some subjects should be kept to the Colleges so that they might retain some degree of academic connection with such students as came to them, students for the oversight of whom they felt themselves responsible and for the previous generation of whom they had built up their institutions. The colleges should have some kind of assurance that the undertaking of teaching by the University was not to be their ruin. After debates of a preliminary character a notice of motion was given by F. C. Wade, seconded by W. R. Mulock:

"Resolved that in the opinion of the Council of the University the time has come when teaching should be

undertaken by the University and that a committee be appointed to ascertain the best method of accomplishing this object; said committee to report the results of its investigation, and the conclusion it may arrive at, at the next meeting of this Council."

The matter was debated at two meetings in the month of October, 1889, and issued in an amendment, moved by James Fisher and seconded by Heber Archibald:

"That without now committing itself to any expression of opinion as to the desirability of making the University a teaching body at present, the Council is of opinion that a committee should be appointed to make inquiries and report as to the feasibility of taking such action in the near future, and as to the extent to which teaching should be introduced, regard being had to the present position of the Province, the University and the colleges; and also to inquire and report as to the probable expense and ways and means of meeting it; such committee to report to a special meeting of the Council to be held within one month from this date."

This was carried by a vote of nineteen to sixteen.

Pursuant to this resolution a committee was appointed which in due course brought in a report recommending that the University undertake teaching in the Departments of Natural Science, Mathematics and Modern Languages. This would require at least five professors and an estimated annual outlay for salaries and rent of \$15,000 with a preliminary expenditure of \$10,000 for equipment. The report also recommended as a protection to the colleges against further encroachment on the teaching territory they had hitherto occupied that no additional subject be handed over to be taught by the University except by a three-fourths vote of the Council. This report was discussed at length from every possible point of view and was adopted in November.

This decision marked the beginning of a new era and a new character for the University and while as a matter of fact teaching by University professors did not begin for five years there was always before the minds of forward-looking members

of the University the fact that the Rubicon had been crossed and that however many might be the disappointments and delays there was the prospect of having "a real University".

When these new proposals were laid before the Government and co-operation invited to secure an amended Act and additional funds the question arose, as was inevitable, about renting and equipping temporary quarters, as against some plan for providing a building for an organization which promised to be permanent. The deputation which had been sent to interview the Government had to come back with the report that their request involved, by implication, the matter of a site for the University or buildings for the teaching for which it asked. The consideration of these matters would take time and the Government must delay action for a year.

This marks the end of an interesting and unusual chapter in Canadian university history. No other province in the Dominion had ever possessed university facilities at so infantile a stage in its history; no other province had ever managed to so secure so inclusive an amount of co-operation of racial and religious elements in one organization for higher education. And perhaps most remarkable of all, the venture had been carried on for more than twenty years and had been successful. There had been difficulties both at the beginning and occasionally emergent, there were traces of friction, for nobody felt obliged to conceal his opinions and these opinions were on a subject—the subject of education—on which theories new and old tumble over one another endlessly. Sometimes the dissatisfied member of the Council contented himself with a ringing manifesto setting forth his new discovery. Sometimes he found a seconder and pushed his message to a vote, and when he was defeated, as he usually was, he subsided, grumbling *sotto voce* to his seat companions that the time would come when he would be seen to be right.

One thing that helped to disarm criticism of this hitherto unknown academic type was its cheapness. The Province had the reputation of having a university, and its cost to the public funds was next to nothing. The only officers who

received any remuneration were the registrar, who had a small salary, and the examiners who got a few cents for each paper examined. And these expenses were in the main met out of the fees of the students.

The burden of carrying on the University fell upon the colleges and heavy as it was the load was cheerfully carried because its membership in the University gave each a dignity which was worth something and especially kept up its morale by the knowledge that its work each year would be passed in review by a group of competent men. The colleges had their abundant reward in the affection and loyalty of their alumni, who have found avenues of expression in enthusiasm for a popular teacher, in the bonds of friendship between alumni and in memories of sporting triumphs. The Province of Manitoba may well remember with gratitude the nearly thirty years during which her children had the benefits of university training at home at the expense of the church colleges, and with a continually increasing effectiveness until the Government itself was in a position to undertake the responsibility. An interesting sidelight on the goodwill of the Government, and also on its helplessness, is seen in the attitude of the cabinet of the Honourable John Norquay, Premier for nine years, known alike for his generosity of heart and his skill in diplomacy. In those days a marriage licence cost eight dollars and Norquay arranged that after the Government had made a small deduction to cover the cost of issuing and registering, this money should be handed over to the colleges, the proportions being determined by the affiliation of the clergyman performing the ceremony.

In those days the normal procedure in establishing a family was for a young man to come to Manitoba alone and as soon as he had found a farm and built a primitive dwelling to send to Ontario or Nova Scotia for the maiden who was waiting for him. This caused Winnipeg and other centres to become marriage marts of great activity and this abnormally large fee cruelly extracted from the pocket of the bridegroom helped the colleges over some hard places.

During the pre-teaching period the scope of the University widened by several additions. In 1882 the Manitoba Medical College affiliated. In 1886 women were admitted to the privileges of the University. In that year Miss Jessie Holmes passed her matriculation examination and received her B.A. degree three years later. In 1890 joint instruction in science was organized by the three colleges, St. John's, Manitoba, and Wesley, under the guidance of the university. In 1902 Manitoba College of Pharmacy joined the University by affiliation.

THE BEGINNING OF TEACHING

The appointment of university professors in Natural Science, Modern Languages and Mathematics had been authorized, but money for the payment of salaries was not available from the Government. It could increase its grant to \$6,000 but not beyond that, and such a sum was quite insufficient for the forward movement which the University had in mind. And the Council itself had not the necessary money, for all the income from the land grant was needed to pay interest on the money borrowed from the Province to erect the Science building.

Under the circumstances the University determined to take over under its own name a co-operative undertaking which had been in force between St. John's, Manitoba, and Wesley since 1900. By this plan the three colleges had united their forces for the teaching of the Natural Sciences, which from the point of view of the equipment needed is the most expensive department in a college. It was specified that the professors now recognized by the University were not thereby establishing claims upon the full-time professorships when these should be provided. While retaining their standing in their own colleges they were to give half their time to the University, and for this they were to receive a thousand dollars each per annum.

The three men thus appointed were:

- E. B. Kenrick, B.A., of St. John's College.
- George Bryce, D.D., LL.D., of Manitoba College.
- George J. Laird, Ph.D., of Wesley College.

This joint teaching was carried on in the old McIntyre Block on Main Street, which was divided off by partitions and fitted up and supplied with materials at a cost of \$500 a year for rent. After the fire in 1898 which destroyed the University's equipment and records, other temporary quarters were secured until the University had a home of its own.

Under the new arrangement the Science department grew rapidly and these classes were used also by the students of the Medical college. Added to that the Medical college proposed to lengthen its session from six months to eight, which meant an increase in Science teaching. There was an urgent demand, therefore, for an extension of facilities for this department. After every possible source of additional revenue had been explored, apparently in vain, Lord Strathcona, on the solicitation of Dr. Bryce, came to the rescue of the University with a gift of \$5,000 a year for five years, the Land Board undertook to give \$5,000 and these sums with the \$3,000 a year which the Government had been paying to the three college lecturers in Science were sufficient to warrant the University in undertaking the appointment of five Science professors at a salary of \$2,500 each. The men who were appointed entered on their duties in October 1904. They were Matthew A. Parker, a graduate of Glasgow, who was appointed a professor of Chemistry, Frank Allen, trained in the University of New Brunswick and in Cornell, professor of Physics and Mineralogy, A. H. R. Buller from the Universities of Birmingham and Leipzig, professor of Botany and Geology, R. R. Cochrane, trained in Toronto and now in Wesley College, professor of Mathematics, and Swale Vincent, a graduate of London, Edinburgh and Heidelberg, professor of Physiology and Biology. To these was added Gordon Bell as professor of Pathology and Histology. He was already employed by the Government as Provincial Bacteriologist and received his salary in that capacity.

Several of these professors, it will be noted, were to be responsible for teaching two subjects. This was a temporary arrangement in the hope that in the not distant future these

subjects would be separated and additional professors appointed.

In an important sense this was a new beginning for the University. The whole structure of the University in its most important function—teaching—had to be organized and these men who had to bear the brunt of the undertaking had no share in the administrative work of the University. They not only had no representation on the Council, but there was no President through whom they might make their views and wishes known. Everything in the way of library and laboratory equipment had to be built up from the beginning. And while the colleges which controlled the Council were friendly and ready to co-operate there was abundant room for tact and wise procedure, if, as was expected, the scope of University teaching was to grow and in course of time to overshadow the prestige of the colleges.

Happily the same spirit of goodwill which had characterized the colleges from the beginning also marked these new-comers. They did their teaching work well, they did not worry unduly about their anomalous place in the government of the University, they added to the reputation of the University among scientific societies by research work and among their fellow-citizens by popular lectures in the extension department.

The agitation for a new constitution for the University continued and began to attract a larger share of public attention. And to this was added a demand for more liberal support and for better housing. The Government decided on the appointment of a Commission. Ontario had a commission on University matters in 1905 and commissions of all sorts were in the air. The Manitoba Commission consisted of seven members and was appointed in 1907. It visited universities far and near, it had numberless interviews and conferences and it reported in 1910. But it was a failure. Its report contained many useful paragraphs, unanimously arrived at, on such subjects as the duty of the Provinces to make liberal provision for higher education, the urgency of the demand for a more inclusive curriculum, the importance

of a larger site, the desirability of having a president to unify the activities of the University and the necessity of separating the business management of the University from its academic activities. But on the vital and most urgent matter—the control of the University—there was hopeless division. Indeed the main thing the public learned from the report of the commission was that there were so many possible ways of running a university.

The commissioners presented three reports; one representing the conservative view was signed by Monsignor Cherrier and Sir James Aikins and held that the colleges should control the University as in the past, that there should be a Board of Management chosen by the Council from among its own members and that the Council should determine what subjects the University should or should not teach.

The radical report signed by J. D. Cameron and W. A. McIntyre, advocated the complete control of the University by the State and that this control should be vested in a Board of Governors appointed by the Government and independent of the denominations. The academic affairs of the University should be managed by a Senate, consisting of the professors and subject to the Governors. The University should be reconstructed after the manner of more recent provincial universities, but the Governors, if they wished, might enter into agreements with the denominational colleges.

Three commissioners, Dr. Gilbert Wilson, John A. Machray and Rev. J. L. Gordon, advocated a middle course. Their view was that Governors appointed by the Province should control the University, that in the academic side of its work the colleges should co-operate by their representatives, but that the colleges should not be in a position to dictate what courses should not be taught.

Failing to get guidance from the Commission the Government and the University continued rather helplessly to feel their way and even made progress, as indicated by increased attendance and consequently larger revenue from fees, and by more generous grants from the Government. The Council

used its improved funds in increasing the scope of its teaching, and by adding the departments of Pharmacy and Law.

An important movement in 1913 separated the Department of Agriculture from the University and kept it aloof for several years, thus reversing the earlier policy of having "one university for the whole of Manitoba". The authorities of the Department of Agriculture discussed and emphasized the opinion that affiliation with the other faculties in the University estranged the farmer students from their interest in Agriculture and country life. They claimed that University men, urban in their outlook and interested in the professions, were not sympathetic with the traditions and problems of Agriculture and that the Universities in the academic meaning of the term had denuded the farms of many of their most promising young men. And so by pressure from the agricultural leaders the affiliation between the Agricultural College and the University was severed and continued thus till 1925.

As early as 1898 Manitoba College and Wesley College began a system of co-operation in teaching. At first it affected only the classes in honours in the two senior years of the University course, where the classes were small. The Manitoba students in Mathematics joined the Wesley students in Wesley College. The Wesley students in Philosophy and Logic came to Manitoba College for their classes. The two college buildings were not far apart and the experiment proved so successful that it was extended to several other departments. In addition to other advantages this plan had the merit of making the class-work more interesting, for in larger classes there was more emulation and more variety of the teaching. It gave opportunity also for better acquaintance and more goodwill between the colleges, a feature which bore fruit a little later.

Encouraged by the approach of Church union these two colleges in 1914 entered into a union as regards the registration, teaching and supervision of students while leaving each free to pursue its own policy and to depend on its own resources as regards finance.

This was followed in the next year by a definite proposal from the University on the basis of which Manitoba College transferred all its Arts teaching to the University, except in Philosophy, Hebrew and Hellenistic Greek, these being subjects of which for financial reasons the University was not yet prepared to take charge. The University also offered to take over all the Arts members of the college staff. The College Board in making this arrangement inserted a proviso that "if at any time it believes it to be advisable to resume the teaching of Arts, it is at liberty to do so." A similar offer was also made to the Wesley College Board, and was accepted, but continued in force for only one year. During that year there were conferences between the Board and the Board of Education of the Methodist Church and Wesley withdrew from the arrangement and resumed the teaching of Arts.

THE UNIVERSITY SITE

In the early days years before teaching by the University had its beginning, the question of a local habitation was of little consequence and did not come up for discussion. The early registrar was content with a pigeon-hole in his office desk for University business, or a little later when students became more numerous had a box in which he kept a minute book, student records, account book and cheque book. A room with desks or tables for student examinations could easily be hired or sometimes could be had for the asking.

But when in 1890 three colleges, St. John's, Manitoba and Wesley, combined to provide the teaching in Science required by the University, it was at once necessary to provide classrooms, library and laboratories apart from the colleges; and temporary quarters for this teaching of Science and for the use of the registrar were rented in the McIntyre Block on Main Street. These rooms were used till 1898 when a disastrous fire not only put an end to the arrangement but destroyed the records in the registrar's office.

This event brought at once to the front the question of a home for the University. And after the canvass of various

proposals the Provincial Government offered to the University what is now known as the Broadway site. This piece of land containing 6.6 acres was known as the "old driving park" and had been used as a race course and athletic field. It belonged to the Dominion Government. It was understood that through the good offices of the Honourable Clifford Sifton, the Government when approached on the subject by men anxious to secure a site for the University, agreed to transfer this property to the Provincial Government for educational purposes and the province offered it to the University. The Council was by no means unanimous about accepting the gift. St. John's College opposed it with much vigour as being too remote. There were official protests from the Council of St. John's College, from the students of St. John's College and from the Archbishop of Rupert's Land. The debate marked by keen feeling went on at successive meetings from May till November and a resolution accepting the offer was finally adopted by a vote of 15 to 14. St. John's College although firmly convinced that it had been treated unfairly, submitted and continued to co-operate loyally in further plans for higher education.

A building on this site was begun in 1899 and completed in 1901 at a cost of \$60,000, the money being secured from the Province by mortgaging the land grant.

The growth of the University by the incorporating of additional departments and the increase in the number of students led to an agitation in the Council, in the newspapers, and in public meetings connected with the University, for a larger site. This discussion brought out an offer from the Tuxedo Park Company of 150 acres of land near the new City Park west of the city on the south side of the Assiniboine River. There was another offer of about fifty acres in Kildonan on the east side of the Red River. Conferences were held with the Government about sites and help in building, but these came to nothing and in November 1910 the Council accepted the Tuxedo Park site, agreeing to spend within a year \$20,000 in improving the site, and \$75,000 in buildings

within six years, in which event half the property would be transferred; in eight years when another \$75,000 had been spent the remainder of the property would be transferred. There were also conditions about the buildings to be erected, about their exclusive use for educational purposes, and about sites for the affiliated colleges.

The Government never approved of the Tuxedo site, but rather favoured the Broadway site with such additions of adjacent land by expropriation as might from time to time be necessary. And so there came a deadlock with the Council which thought the Broadway site impossible. It is to be kept in mind that the selection of a new site did not involve merely the fixing upon a location, but, so far as the Government was concerned, immediate heavy expenditure in the erection of buildings, and the reluctance of the Government to approve of this or that site was due, as the Council was repeatedly reminded, to the inability of the Government to follow up with a building programme which such a selection would involve.

In the meantime in 1919 and 1920 to meet the rapidly increasing needs of the University after the war, emergency buildings were erected on the Broadway site.

The agitation went on in the newspapers, in University circles and in bodies of students and alumni between those who thought that an easily accessible site as on Broadway was best since the Government had promised to expropriate additional land, whereas in some of the larger universities of the United States, such as Columbia and Pittsburgh, buildings on the sky-scraper plan are being erected and ground space economized, and where the city public can easily get the benefit of the extension courses and popular lectures which modern universities offer. Against these arguments were the opinions expressed with equal vigour of those who contended that the prime requisites of a worthy site were ample spaciousness where there was pure air, room for the artistic arrangement and proper display of fine architecture and where there could be playing fields for educating the bodies as well as the mindso f

youth. These advocates thought that modern methods of rapid transportation made a few miles of distance a negligible factor.

In 1929 the emergency building on the Broadway site was overcrowded and nothing was being done about a permanent site or adequate accommodation. The students rose in protest, marched in procession a thousand strong to the Parliament Buildings and presented a petition to the Premier, describing their grievances due to overcrowded class-rooms, and asking for immediate action about the long discussed matter of the site. The Government responded by appointing a commission of University men and architects. Their verdict was determined mainly by the question of cost as between the favoured locations. The Commission took the view that the Tuxedo site was too expensive as involving an expenditure of four millions of dollars for its proper development. The Broadway site would cost even more because it was estimated that the purchase of the necessary additional land in this central locality would run up to approximately six millions of dollars—whereas the St. Vital site on which the Agricultural College has buildings already could be adapted to the needs of the University for the much less sum of one million dollars.

In 1930 the Government announced the setting apart of 137 acres on the Red River adjoining the new site recently occupied by the Agricultural College, which had now reverted to the University after a period of separation. New buildings were at once planned and within two years, two buildings, one for Arts and one for Science,¹ were erected and occupied.

An amicable arrangement was reached with the Tuxedo Company by which the Council was allowed to withdraw from its promise to use that site for University purposes. For the present the Fort Garry site² is used only by students of the senior division (third and fourth years)³ while the

¹These buildings are among those shown in the frontispiece. [Ed.]

²The "Fort Garry site" is the correct name for what was universally, at the time of the discussions, called the "St. Vital site". [Ed.]

³In addition to senior students in Arts and Science, the Fort Garry site is also used by senior students in Engineering, by graduate students in all faculties except Medicine, and by all students in the faculties of Agriculture and Home Economics, Architecture, and Education. [Ed.]

junior division continues to occupy the premises on Broadway.

And so after more than thirty years of uncertainty and agitation part of the University has found permanent quarters and is adequately housed.

COMPLETION OF THE UNIVERSITY ORGANIZATION,
1913-1921

The lack of a single responsible head had been a serious obstacle in the way of a continuous forward policy for the University. The Council was too large and unwieldy and though made up of intelligent men interested in education it had failed to give satisfactory leadership. The appointment urged for years was made in 1913, and the man chosen was Dr. James A. MacLean, a graduate of the University of Toronto who had specialized in Economics and at the time of his appointment was president of the University of Idaho.

In the following year the University for the first time offered instruction in the full course for the B.A. degree. Students were now registered as students of the University, and not of this or that denominational college, although the colleges continued to have in addition their own registration lists. The transfer of Arts work from Manitoba College, elsewhere described, gave a great impetus to the University.

Provision was made for the teaching of classics by the University, and for the Manitoba Law School. Additional accommodation was found in the old Law Courts on Kennedy Street, in the building at Portage Avenue, and Sherbrook Street, now given up by the Deaf and Dumb Institute, and in two dwelling-houses in University Terrace.

The Government grant amounted to \$6,000 when the University began teaching, and was increased to \$34,000 when the President was appointed and in the course of the four years following reached \$125,000.

The Legislature of 1917, at the request of the Council, introduced a bill providing for the reorganization of the University on the basis of State support. The Honourable

R. S. Thornton, minister of Education, in introducing the bill described its general purport as follows:

"The present bill is an amending measure and deals only with the mode of government of the University. It provides for the constitution of a Board of Governors to control and manage the University. It continues the present Council in a modified form with modified powers subject to the final authority of the Board of Governors. It does not deal with any matters of policy of the University, the Government believing that such matters can be more adequately dealt with by and through the Board of Governors. After the Board has become thoroughly acquainted with University affairs, it will be in a position to recommend and direct such changes as may be necessary."

The Board of Governors was constituted with nine members, appointed by the Lieutenant-Governor-in-Council and membership in the Board was restricted by the Act, in the following terms:

"No person shall be a member of the Board who is at the same time a member of the regular and permanent staff of the University, or of any affiliated college."

The powers of the Board of Governors in general are described as follows:

"The government, conduct, management and control of the University and of the property, revenue, business and affairs thereof shall be vested in the Board, except as in this Act otherwise provided, and all powers which are not by the terms of this Act directed to be performed by any other person or body are hereby vested in the Board."

The Council was continued and was to have general charge of the academic work of the University but its membership was reduced to twenty-seven, six of whom were to be appointed by the Lieutenant-Governor-in-Council, the others representative of the teaching staff, the affiliated colleges and the alumni.

One of the early advance movements organized by the new Council was under the auspices of its committee on Extension work. It aimed to give the people of the Province the benefit of

popular lectures on literary, scientific and historical subjects and so to familiarize them with the value of the University. The extension department aimed also to provide special courses of training for which there was a local or temporary demand. These lectures have proved useful. During the first winter eighty-eight were given in places ranging from Port Arthur to Roblin and since then there has been an average of from 125 to 150 each year. The lectures were given by members of the teaching staff of the University, the affiliated colleges, the Normal School and the Board of Education. Local arrangements for the visits of the lecturers were made by local school boards, by the Manitoba Trustees' Association or by the Council of Women.

The arrangement of extension courses in Winnipeg by evening classes proved to be popular. Courses in Mining, Business Training, Retail Merchandising, Art, Social Service and Nursing were asked for and when given were well attended.

The Medical College had been organized in 1885 by a group of Winnipeg physicians, who gave their services gratuitously and devoted the fees collected from students to the equipment of rented premises and later to the erection and enlargement of buildings for college purposes. They secured a Provincial charter, were affiliated with the University and developed a centre of medical training which gained an excellent reputation. Now in 1918 they transferred their whole property and equipment to the University of Manitoba "on condition that the University establish a Faculty of Medicine, and carry on the work of medical education in an efficient manner". In 1920 the Rockefeller Foundation gave half-a-million dollars for the endowment of the Faculty of Medicine.

The management of courses of study was reorganized by raising the standards in examinations, by increasing the requirements for matriculation and by introducing the unit system of reckoning the progress of the student in his course.

Beginning in 1921 the policy of placing each Department under a dean was adopted. The first part of the University to be so organized was Arts and Science with William Tier

as dean. This was followed in other faculties and now in 1937 the plan includes Dean E. P. Fetherstonhaugh of Engineering and Architecture, Dean A. T. Mathers, Medicine, Dean Alfred Savage, Agriculture and Home Economics, Dean T. W. Laidlaw, Law, and Dean D. S. Woods, Education.

Two types of summer school had grown up in Winnipeg, one planned by the Department of Education for school teachers who wished to improve their status by supervised study during the holiday months; and the other organized by the University for students who had failed in part during the winter session. In 1924 these two summer schools were combined in the buildings of the Agricultural College with an initial attendance of 466, which has since grown to more than 1,000.

RECENT DEVELOPMENTS AND SUMMARY

A University which did not teach or which taught only a limited part of the curriculum, naturally did not appeal to sentiment and did not develop an *esprit de corps* among its students. And so while alumni associations were formed among the graduates trained in the affiliated colleges, the University had to wait until it became a teaching body in a worthy sense of the word before it had the material, or before its members felt the urge to band together to express their loyalty and to further the interests of their alma mater. It was in 1921 that the University of Manitoba Alumni Association was formed. It showed activity at once in holding social functions, in soliciting the co-operation of members throughout the Province, in publishing the *Alumni Quarterly* and in raising funds for special University purposes. It has secured an Act of Incorporation from the Provincial Legislature, and has showed itself to be a valuable adjunct to the University in its recent forward movements. Its usefulness has been recognized by giving it the right to choose three members of the Board of Governors and share in the election of the Chancellor.

In 1932 it was discovered, however, that the Bursar of the University, who was also chairman of the Board of

Governors, had been guilty for years of misappropriating and misusing the funds in his charge, covering up the shortage by fictitious entries and sham securities. By the time the fraud was detected the loss amounted to two millions of dollars. The guilty officer was punished but there could be no recovery of the money and the endowments and scholarship funds were almost completely wiped out. Salaries of professors and officials were reduced, the tuition fees of students were increased and in every way possible the management shortened sail. It was an experience of hardship and disappointment for everybody, and upon the whole it was met with a minimum of recrimination and a maximum of courage and determination to meet and surmount the new difficulties.

President James A. MacLean who had acted as president for twenty-one years and had reached the age of retirement, resigned his position in 1934 and the Board of Governors found a successor in Sidney Earle Smith, Dean of the Faculty of Law in the University of Dalhousie. A native of Nova Scotia, a graduate of Dalhousie, with a record of service in the war, with a period of post-graduate study in Harvard and with experience as a teacher in Osgoode Hall, Toronto, and the Law Department in Dalhousie, the University welcomed him and did what it could to encourage him in repairing recent damage and setting the pace for a forward movement.

A new University Act was passed by the Legislature in 1936 which after lengthy study by the University and the affiliated colleges abolished the Council and substituted for it a new body called the Senate with somewhat modified powers, gave wider authority to the Vice-Chancellor and re-modelled the method of caring for the University finances.

* * *

All that remains now in this sketch of Manitoba's foremost educational undertaking is to say that the activities outside of the curriculum which in recent years have bulked so largely in student life have been as conspicuous in Manitoba as elsewhere. While the University was as yet scarcely more than a

name, the students of the colleges turned upon occasion from compulsory Greek and Aristotelian logic to Homeric struggles on the football field. It was association football that was in fashion in those days and while St. John's, Manitoba and Wesley usually had a larger enrolment to draw their players from, Medicine and Law often had the advantage of players already trained in an Arts college and won in the lists against their former associates. Tradition says that in the antediluvian era Manitoba College held the soccer championship for nine successive years, but on the whole honours were reasonably well divided, and there was uncertainty enough beforehand to make the oyster supper, which rewarded the victors, an event which is still recalled at alma mater gatherings. In the course of time hockey and curling in winter, tennis and less frequently lacrosse in summer, and by and by a field day in autumn gave opportunity for display of fleetness of foot and strength of muscle.

Literary societies which sponsored the writing of essays and the arranging of debates were the forerunners of the inter-provincial debates of the present day which provide meetings, in which all the universities of Western Canada and the university in the neighbouring state of North Dakota take part. St. John's, Manitoba and Wesley had student publications which were issued monthly or in some cases less frequently during the college session. Now these are published less regularly and the *Manitoban* and the *Alumni Quarterly* occupy the field. Years ago students were satisfied with two or three social functions in the year in the name of the University. Now there are not enough Friday nights in the month and dances or amateur theatricals overflow into the evenings that used to be at least nominally consecrated to study.

Keeping in mind Thomas Carlyle's dictum that the history of mankind is best expressed in the achievements and characters of its famous men, we may congratulate ourselves that for two generations the youth of Manitoba have had before their eyes such examples as the men who founded and have carried on its University. Archbishop Taché, full of wisdom and of

energy, loyal to his church yet eager to co-operate wherever there was common ground. Father Cherrier, who helped to guide the affairs of the University during almost all of the sixty years of its life, our two Chancellors, Archbishop Machray, devoted to high university ideals and vigorously consistent in maintaining them, Archbishop Matheson, with unrivalled knowledge of conditions and of men and a master of sagacity in administration, Dr. Bryce, energetic and resourceful, Dr. Hart, the most loving and patient of teachers to whom all geese were swans, Dr. King, whose intense moral earnestness left a mark on a multitude of men and women which is visible to this day, Principal Sparling, a prince among leaders, Dr. Good, wise and witty, and Dr. Chown, strong and constructive, in the front rank of the doctors who by years of gratuitous service put the Medical College on its feet. Outside the ranks of the college were free lances like Fred Wade, who did good service in broadening the scope of the University and getting its land grant, and W. A. McIntyre, who never forgot or allowed us to forget his clear-cut educational ideals when they were in danger of being strangled by traditional red tape.

The University has much to be thankful for in the capacity, the unselfish devotion and the forward look of the men who have guided her destiny, and it is a satisfaction to know that their mantles now rest upon the shoulders of successors no less alert and no less devoted.

THE ARCHITECTURAL HERITAGE OF MANITOBA

M. S. OSBORNE

"A GLANCE along the perspective of past ages reveals architecture as a lithic history of social conditions, progress, and religion, and of events which are landmarks in the history of mankind; the genius of a nation is unmistakably stamped on the architectural monuments."¹

Many forces have combined to influence the development of architecture in Western Canada. The demands of a severe climate with a great variation in temperature had to be given primary consideration in the first buildings erected by the pioneers. The weight of heavy snow called for roofs of sufficient pitch; chimneys were necessary for stoves and fireplaces, and windows had to be of such design that a great deal of light would be admitted and the windows still be tight against the weather. The available building materials native to the locality, the ease with which they could be gotten and incorporated into the buildings, their durability, their cost and even their possibilities for beauty were all important considerations to the first settlers.

The simple pioneer houses are seldom concerned with what is known as "style" in architecture. The house of the aboriginal was meant to provide protection in inclement weather and to be a safe refuge in time of danger against wild beasts and human enemies. The original sod houses on the plains of Manitoba were meant only to be temporary dwellings until the family was able to provide itself with something better, but they were the aboriginal homes of the first white men in this locality, and might therefore be considered the first style of architecture that Manitoba produced.

There was a gradual evolution in building through the various stages of the development of both the log and the

¹Fletcher: *History of Architecture*.

stone house. The use of these materials was dependent upon their supply in the immediate locality. Had the growth of Manitoba to the present day been marked by a gradual evolution of social life and customs and had it been possible for it to have remained isolated from the rest of the world, as was the case until the advent of the railroad, the architecture which surrounds us might well have been very different. The settlers in this locality would have discovered for themselves a style or method of architectural construction best suited to the particular requirements of this climate, and adaptable to the building material available. We might then have had a local style expressive of our native materials, our social life and our personalities such as you will find in Eastern Quebec, in the Cotswold district in England or in the James River district in Colonial Virginia.

The builders in the Red River Settlements in the early nineteenth century were Scotch or English and yet we find that examples of their work strike a new note and take upon themselves a new and distinct character when transplanted into this environment. Although there was practically no communication with Ontario, many of the buildings, nevertheless, were reminiscent of the Georgian Colonial work of about the same period in the Niagara section of Ontario. There was also the unmistakable French influence, introduced by the early settlers from Montreal and Quebec. The steep Mansard roofs, the high, narrow dormer windows, and most characteristic of all, the verandahs, all show the French tradition, but even so we would scarcely mistake them for French habitant houses. They were an adaptation of the French, just as others were an adaptation of the Scotch and English traditions, into a local mode of architectural expression which might in time have developed into a stylized form.

The architecture of the buildings we see around us today is, almost without exception, imported. Almost concurrently with the great boom of 1881, which brought not only Eastern Canadians, but a great influx of English, French, American and other nationalities, into this western country, a style of

architecture which became known as the Romanesque Revival was introduced into North America. In common with the revivals, of which there were many during the nineteenth century, the new movement swept the continent like wild-fire and dictated the style of all types of buildings. Thus we find Winnipeg being built as a new city in a style of architecture almost entirely alien to its racial traditions and to the logical requirements of climate and available building materials. The Romanesque was a style that could best be expressed in brick, a material which at that time had to be imported, and was dependent for its effectiveness upon circular arches and arcades to which neither our local stone nor wood were particularly adaptable.

Following the advent of the Eclectic Movement at the beginning of the twentieth century our architecture developed into a conglomerate collection of examples of all styles from the Classic Greek, through the Roman, Romanesque, the whole gamut of the Gothic, and the Renaissance,—Italian, French and English. Ours is not an isolated example, for this is the history of nearly all mid-western and western cities in North America. All local tradition was cast aside, together with all local requirements of climate, building materials and traditional background. Indeed it seems extremely doubtful whether we will ever again speak of architectural or artistic styles as belonging to a definite locality or nationality. New ideas, as soon as expressed, are transmitted around the world, and a new development in the field of building construction in France, Germany, England or Russia may immediately be adopted as our own if it helps to solve similar problems here.

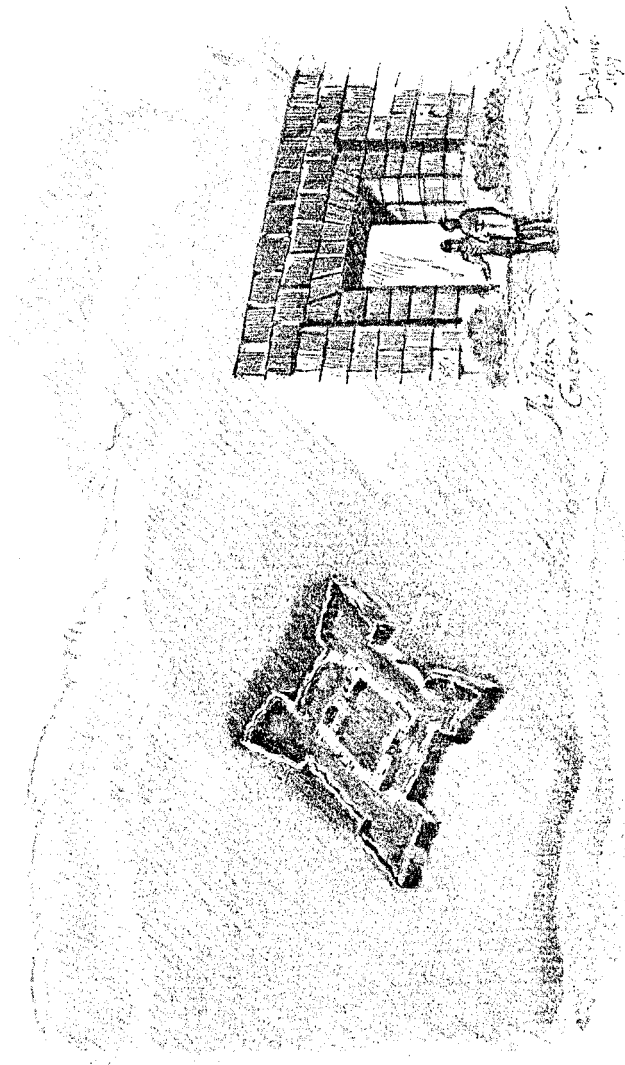
There is little doubt as to the great advance made during the past century in our attempts to erect buildings capable of protecting us against the rigours of long winters. Science has been largely responsible for the advancement of heating methods, which have revolutionized house planning as well as the planning of much larger buildings than would have been practical a few years ago. Our problem of providing ourselves with the materials of construction is not essentially

different, however, from that which faced the early builders on this continent. Even with the rapid communication of the present day, our isolation makes it necessary from the economic point of view to use those materials which are most easily available. The use of local materials and the solution of problems of climatic and soil conditions in pioneer days has yielded a rich legacy of great value to us in our modern building enterprises.

The first major construction project in what is now Manitoba, of Manitoba materials, was the Fort Prince of Wales (Figure 1), erected by the Hudson's Bay Company in the vicinity of the present town of Churchill in 1731. Designed by military engineers in the employ of Lord Marlborough, it consisted of a great polygon a hundred yards square on the exterior sides with four bastions and mounting forty-two guns. The work was carried out under the direction of Joseph Robson and Richard Norton with the aid of a number of stone masons, artisans and labourers together with "a horse" which had been sent out from England two years before. The walls were of stone quarried in the immediate vicinity and the wooden palisades were of local timber. Thirty-seven to forty-two feet in thickness and thirty or more feet in height, they surrounded a residence of wood and stone.

The fort was built on a site formerly occupied by a large Eskimo settlement described in a Hudson's Bay Company *Journal* of 1717 as having a population of three or four hundred persons, some of whom lived in "Large Tents, big enough to hold 50 people" constructed of logs, earth and moss. Apparently they were boat builders of ability for there is mention of boats forty feet in length capable of carrying fifty persons.

Norton had been commissioned by the Hudson's Bay Company to erect at the most strategic point on their fur-trading routes "a stone fortress of European design capable of repulsing any such naval raids as those led by d'Iberville in the time of William III." Norton personally directed the work and although his knowledge of fortress building was sadly lacking,



FORT PRINCE OF WALES
(Figure 1)

he balanced this deficiency through his energy and resourcefulness. Several months were used in collecting stone, burning lime and digging foundations, but on August 6th, 1731, he records in his *Journal*, "This Day we Lined & Picketed ye Fort on Eskemoe point. It consisting of a Polygon 100 yards square the Exterior Sides." During the autumn, winter, and spring stone and timber were collected and hauled by sledges to the point. "In 1733 two oxen and apparently two bulls were sent out, and after some trouble were broken to the task of hauling stone, hitherto performed entirely by the men themselves." Norton's *Journal* of April 15, 1734, records as follows: "Sent 6 hands more to Eskemay Point wch makes ye number of men there 36 So we Can at all opportunities work two Waggins with men, & one with Cattle, In Drawing to ye Work Stone & Clay or rather Mudd . . . tryd ye Experement of Blowing or Bursting Rocks to Pieces with Gunpowder, wch I Performed with Good Success & find it will be of Great Service towards ye Dispatch of our Building."

Because of the enormous thickness of the walls, the fort was considered impregnable, and was therefore manned by a garrison much too small to withstand the siege of a French fleet in 1782; it capitulated, to be almost entirely demolished. The guns have lain buried under a mass of debris of stone and earth for many years and only within the past few years has sufficient public sentiment been aroused to have the fort reconstructed in at least a semblance of its former glory.

Perhaps there is little of architectural value to be gained from a study of Fort Prince of Wales, but it did demonstrate to the masons of the time the great possibilities which lay in the use of a limestone which presented all of the desirable qualities of a good building stone. Its ease of quarrying and cutting and its resistance to weather made it a combination of rare quality. Its mottled surface produced a beautiful tapestry effect, and its range of warm colouring gave it a pleasing variation of tone quality when used in large wall surfaces.

The most interesting group of buildings of local limestone is the Lower Fort Garry eighteen miles below Winnipeg, on

the west bank of the Red River. That it is the best preserved of all Hudson's Bay Company forts in Canada is in itself a fitting tribute to the materials of which it was erected. Following a plan drawn by Chief Factor Alexander Christie work was begun on the foundations of the walls in 1831 and the last building was completed in 1839. Alexander Ross, a visitor to the fort a few years after its completion, writes that it was a splendid establishment, "covering an area of ground as large as St. Paul's Cathedral," which imparted an air of growing importance to the place. More secluded than Upper Fort Garry which was located at the junction of the Red and the Assiniboine Rivers, it had a picturesque and rural beauty. "Here the Governor of Rupert's Land resides, when he passes any time in the Colony. To those of studious and retired habits, it is preferred to the Upper Fort."²

At the middle of the last century the Lower Fort was the centre of the social life of the community. The young people of Red River Settlement held their social meetings here and in the Parish School House close to St. Andrew's Anglican Church. "Occasionally travelling showmen, sleight-of-hand experts, ventriloquists and magicians helped to pass an otherwise idle hour."³

The walls of the fort were of fossiliferous limestone taken from the banks of the Red River within a hundred yards of the building site. Lime for mortar was burned from the same stone, and forests on either side of the river furnished fuel for the purpose. The walls are about seven and a half feet high and three feet in thickness. They are loop-holed for rifle fire with sliding rifle rests made of wood. Over two thousand feet in length, they form a quadrangle enclosing an area of over four and a half acres.

Duncan McRae, a stone mason from Stornoway, in the Scotch Hebrides, and John Clouston, were chiefly responsible for the building of the walls and bastions of Lower Fort Garry. They were the masons on the Upper Fort as well, which was

²Ross, Alexander: *Red River Settlement*.

³Watson, Robert: *Lower Fort Garry*.

demolished in 1882, and on most of the stone buildings erected in Red River, including St. Andrew's Church, known then as the Rapids Church, old St. John's Cathedral, Mapleton Church, and St. Peter's Hospital in Selkirk. It was while working on St. Andrew's Church that McRae suffered an injury which made him an invalid for the remainder of his life.

What we see today is only a part of a complete establishment which in those early days teemed with a feverish activity. South of the fort were the men's house and canteen, the farm manager's house, the grain flailing building, the root house, a distillery, a brewer's house, a beer cellar, a store, grist mill, saw mill and blacksmith's shop. Of these only one small building remains, but within the fort walls we still have the governor's house, which was the official meeting place of the Council and the Governor and company officers, the store and fur loft, the prison with its iron barred windows and spy-hole door, the soldiers' canteen and women's asylum and the foundations of the barracks of Colonel Wolseley's soldiers of the famous Second Quebec Regiment.

With many of the original buildings gone, the Lower Fort is still a most impressive sight to the visitor. As it is approached across the flat plains it seems to rise like a mirage from some long forgotten past. Surrounded by the smooth green of a modern golf course it is reminiscent of the legendary fortress buildings of medieval France and England.

Of the Upper Fort Garry, built at the junction of the Red and the Assiniboine Rivers, there remains only the gateway in the small park east of the Fort Garry Hotel as a reminder of days which already seem incredibly remote. Occupying a site 280 feet east to west and 240 feet north to south, it comprised several large buildings. Like the Lower Fort, the corner bastions were circular in shape with the steep conical roofs typical of the towers of French habitant buildings in eastern Canada. The stone for the building was quarried near the site of Lower Fort and hauled up the Red River on sledges drawn by oxen. The stones were raised into the walls by placing them in a

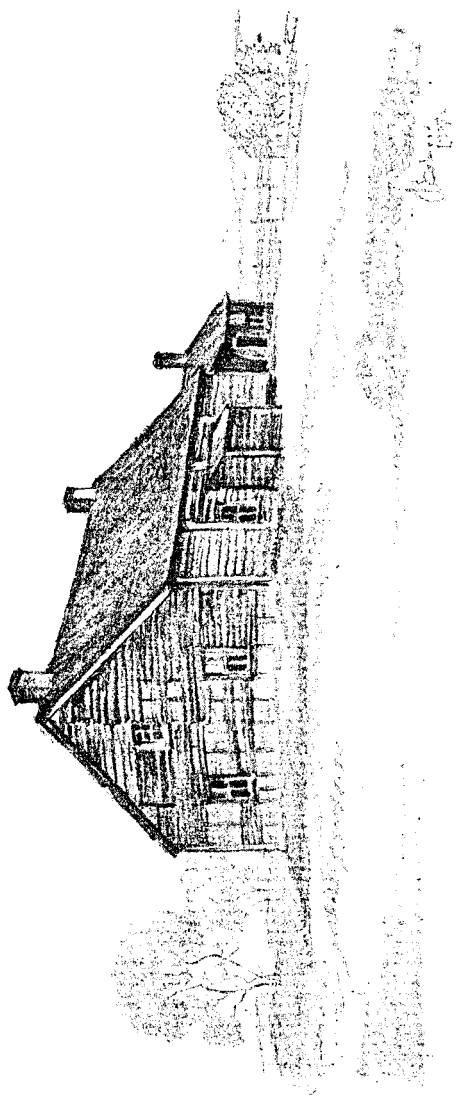
stout box of heavy boards and lifting them with a windlass and tackle.

Many of the large buildings of the Upper Fort were of stone, with thick walls pierced by openings in which were windows with twenty-four or even thirty small glass panes. Simple, rectangular buildings, they were much like the staunch Scotch houses which were undoubtedly their prototypes. The Governor's house was of wood, three stories in height, with wide windows protected by heavy wooden shutters. It was of unusual dignity and fine proportion, with a projecting entrance way covered by a low gabled roof. It is not difficult to distinguish a similarity to the simple wooden houses of the Georgian Colonial style built in Ontario at about the same time. One of the large buildings was of half-timber, the frame being built of heavy timbers and the spaces between them filled with clay or sod and protected from the weather by a coating of whitewash or mortar.

Alexander Ross visited the Fort in 1837 and found it a lively and attractive place . . . "full of business and bustle." It was the seat of the Governor of the Colony and there all of the business of the colony was transacted . . . "here ladies wear their silken gowns and gentlemen their beaver hats. Its gay and imposing appearance makes it a delight to every visitor and a rendezvous of all comers and goers."

With the phenomenal growth of the city of Winnipeg in 1882, the Fort was torn down to make way for the extension of Main Street and the stones were incorporated into the foundation and walls of the new Hudson's Bay Company Building.

The homes of the settlers in the Red River district were not so pretentious as those erected for the officers and garrison of the forts. On the prairie where wood or stone were not available sod became of necessity the building material. On the prairie farms where the sod had never been disturbed, it was very tough and could easily be cut into long strips three feet or more in length and sixteen to eighteen inches in width. A single wooden door frame and perhaps one window were set into place and the sod strips piled one upon the other until the



RED RIVER FRAME HOUSE
(Figure 2)

necessary height was reached. The window was without a sliding sash and often glazed paper or a half-tanned skin were used to admit the light. The floor was more often than not of packed earth. Occasionally the sod would be solid enough on the inside to bear whitewashing, but usually the earth sifted down continually, to gather in little piles of sand at the base of the wall. There was seldom a partition. The bed would occupy one corner, the cook stove another and the remainder of the room would be occupied by a table and a chair or by packing-boxes, if furniture was not available.

The sod house was usually square with a heavy pole across the centre to carry the roof rafters. The roof of earth often grew a luxuriant crop of weeds which was an enticing temptation to an active calf or steer.

Where logs of suitable length were available, the cabins were of typical log construction, the logs placed horizontally, one upon the other and dove-tailed at the corners or set together in the notch and saddle style. Round or hewed poplar logs were used with a tier of oak or tamarack next to the ground, for it was soon found that poplar did not last long in direct contact with moisture. If oak or tamarack were not available the building was set clear of the ground on a stone wall and banked with clean dry sand. Between the logs the spaces were filled with strips of wood, clay and straw, or mortar. Over this was placed a coating of mortar or of white sandy clay which baked in the sun to a hard, weather-tight surface. The roofs were shingled or thatched, the thatch grass put on with withes or laid in white mud.

When the log houses were of such size that logs of sufficient length could not be easily obtained, a special type of construction was used, known as the Red River Frame (Figure 2). Large logs with vertical grooves cut into them were stood upright at the corners and spaced five or six feet apart. Short horizontal logs with thinned edges were then slipped into the grooves and placed one above the other, the interstices being filled with moss or mortar.

A visitor to the Selkirk Settlement in 1830 spoke of the

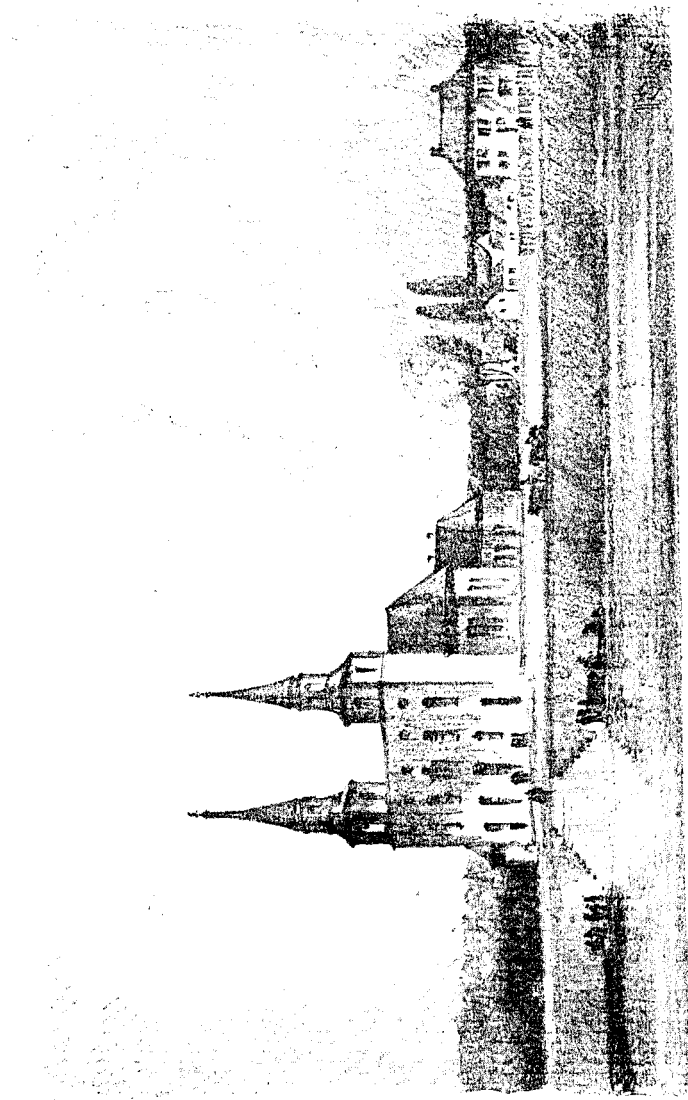
houses as "an irregular line of huts fronting the river on a narrow flat . . . built in the fashion of the Canadian woodsman, of rough logs with roof sloping to the rear and covered over with moss and clay nearly a foot in thickness."⁴ Seven years later a very different picture met the eye of Alexander Ross, who in his *Picture of Life as it is in Red River* describes the houses with "papered walls and carpeted floors divided into two rooms. The floors were kept clean, the beds were neatly made up and generally set off with curtains and coverlets. The little cupboards, even though there was nothing in them, were orderly and clean." He remarks that everything was just as it ought to be ". . . the people surpassing in comfort those of the same class in most other countries." It seems that the houses even at that early time were warm and comfortable. Social utopia had apparently arrived for he says that ". . . every man minds his own business. Every woman may be found in her own kitchen. The flail and the spinning wheel are ever at work."

A serious attempt was made on the part of the Governor of the Colony to interest the settlers in better methods of farming as well as building, in stock raising and the planting of orchards of small fruits. There are examples of at least three model farms set up in the community; one established by Governor George Simpson of the Hudson's Bay Company in 1830 provided buildings of every description to make a complete farming establishment, including barns, barn-yards and stables. There were parks and enclosures and "a noble residence for the 'manager'."⁵ The best stock and equipment procurable were purchased, in fact ". . . whatever was necessary, even to the milk pails and axe handles." None of the experiments proved successful, however, and each in turn was given up with a heavy financial loss to the promoter.

There is little doubt of the beneficial effects of such experiments in helping to raise the social status of the entire community. The building of better homes with the improvements

⁴Martin, Chester: *Lord Selkirk's Work in Canada*.

⁵Hill: *History of Manitoba*.



ST. BONIFACE CATHEDRAL, 1833-1860
(Figure 3)

which would be introduced in such an enterprise would do much to encourage a higher standard of living in those who came into contact with them. In fact, by 1845 there had been a decided improvement in the character of wooden buildings in the settlement. George Bryce in the *History of Manitoba* writes of that time, "several (of the buildings) are of two stories high, some with galleries and two ornamented with verandahs. Taste as well as convenience begins to receive its due store of consideration. The luxury of glass windows and a lock on the outer door, things hitherto scarcely known in Red River, have become fashionable, indeed almost general. Such houses, white as snow, look well and have a gay appearance."

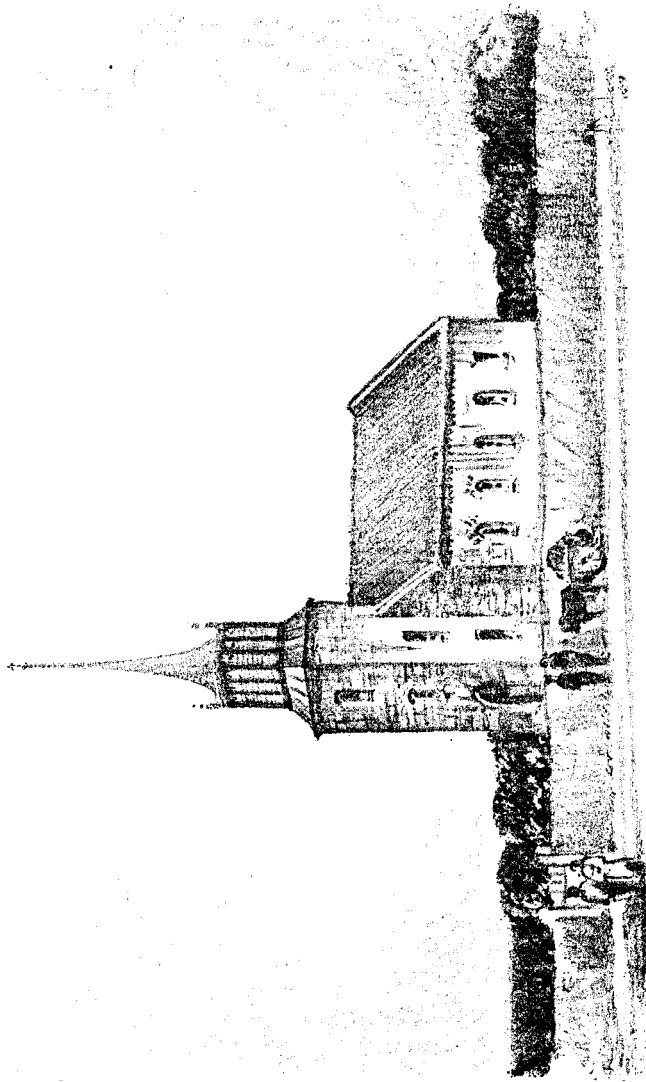
The Red River Colony prospered, even with the discouraging flood of 1826 and another almost equally disastrous in 1852. There were plagues of grasshoppers, there was drought, and there were the unsettled conditions resulting from the continual wrangling of rival trading companies. The colony was almost entirely isolated from the world, with only two shipments of supplies coming into the settlement each year. Isolation did not mean a lack of progress, however, either socially or architecturally, as can be readily seen from an article published in one of the leading magazines in the United States in 1856. It read, "There is a spot on this continent which travellers do not visit and from which civilization seems in a measure shut out. Deserts almost trackless divide it on all sides from the habitations of civilized man; no railroads or steamers, or telegraph wires, or lines of stages make their way thither: to reach it, or once there, to escape from it, is an exploit of which one may almost boast. Yet Red River Settlement contains a population of 6,000 souls, eleven places of public worship, is profusely supplied with clergy, including two bishops, a citadel of formidable strength and large size, several large two-storey stone buildings with modern conveniences, a dozen mills, ever so many model farms stocked with fine cattle . . . there is more than one good library there, and several good cellars; a man could dine there according to Soyer, drive a two-forty in a dashing Canote over the crisp

snow, dance the latest Cellarius polka redowa with ladies of any shade from the pure bronze to the mere white, discuss the principles of human society and the theory of popular governments as learnedly as the thing could be done at Washington or Cincinnati."

Manton Marble, a visitor to Red River in 1859, describes a residence of "the better class" in his *Red River and Beyond*, published in *Harper's Monthly*:—"Mr. Harrot's residence is built of limestone, quarried from the native rock, and within and without was planned by its owner. One fact reveals some of the causes of the stagnation of things in Red River. Mr. H. when building his house, left in the spacious dining room an arching alcove for a sideboard, at the same time giving a cabinet-maker at the settlement an order to fill it. Several years have elapsed, but what with the cabinet-maker hunting, and farming and doing nothing, Mr. H. has never seen the wood of which the sideboard is to be made.

". . . A few well selected books, house plants in the window, choice engravings on the wall, riding whips and guns in the hall, tobacco jar and pipes on the sideboard, a melodeon and accordeon and music box in the room which New Englanders call a parlour, tell the story of how the pleasant summer days and long winter nights are whiled away and how a life of exposure and adventure and toil is rounded with rest and calm and domestic peace. . . . Almost every man is his own carpenter, house-builder, wheel-wright, blacksmith, and all are either small farmers or hunters."

There is ample evidence that many of our present-day building problems faced the builders of this early time in the Red River valley. The problems of uncertain soil conditions which have led to many construction difficulties and which are thought by some to be a development of the past few years were apparently a source of considerable concern in 1869. J. J. Hargrave in his book *Red River* says of that time that "the most characteristic feature of the colony (which had a population of over ten thousand persons) is the evanescent nature of its dwelling houses, which seem to resemble in that respect the



ST. ANDREW'S CHURCH
(Figure 4)

lodges of the savages, removable from day to day and leaving no trace behind. The material used for building is wood and the majority of the houses inhabited by the poorer classes have only one or two rooms. . . . One of the objections to the use of stone in building rises from the depth of earth composing the soil, rendering the task of excavation reaching to the solid rock one not to be contemplated. Pile driving is yet unknown in the place, and concrete it is thought would be of doubtful efficacy, as the surface of the ground is said to be ever slightly altering in a manner which in course of time might cause fissures. . . . Even the larger houses of the wealthier residents, unless kept in constant repair, fall quickly into decay."

Across the Red River in St. Boniface, however, there was erected a structure which remained until 1860 an outstanding achievement in the art of building. The Cathedral of St. Boniface (Figure 3) built in 1833 and immortalized in Whittier's poem *The Red River Voyageur* was the finest example of the artistic skill of the early builders in Manitoba. Built of stone quarried in the locality it possessed a façade of unusual beauty of proportion and detail. The windows were of the narrow pointed style much like the lancets of the Early English period and above the entrance doorway was a triple window, often called "Venetian" by the New England builders. Its twin towers were surmounted by slender steeples which rose to a height of 108 feet. It was Bishop Provencher's church and was beyond all comparison the largest and grandest edifice in Rupert's Land, for it was a hundred feet long, sixty feet in breadth and had a wall height of forty feet. The pillars in the interior were painted and the walls were decorated in such taste "as would have satisfied the aesthetic faculties of the most refined."⁶ The furnishings included chairs, tables and desks of the finest design, many large oil paintings, and a magnificent library of five thousand volumes. The Bishop's residence was seventy feet in length with a symmetrical façade in which were small paned windows with louvred shutters much like those to be found in Quebec of the same period.

⁶*The Nor'wester*, 17th December, 1860.

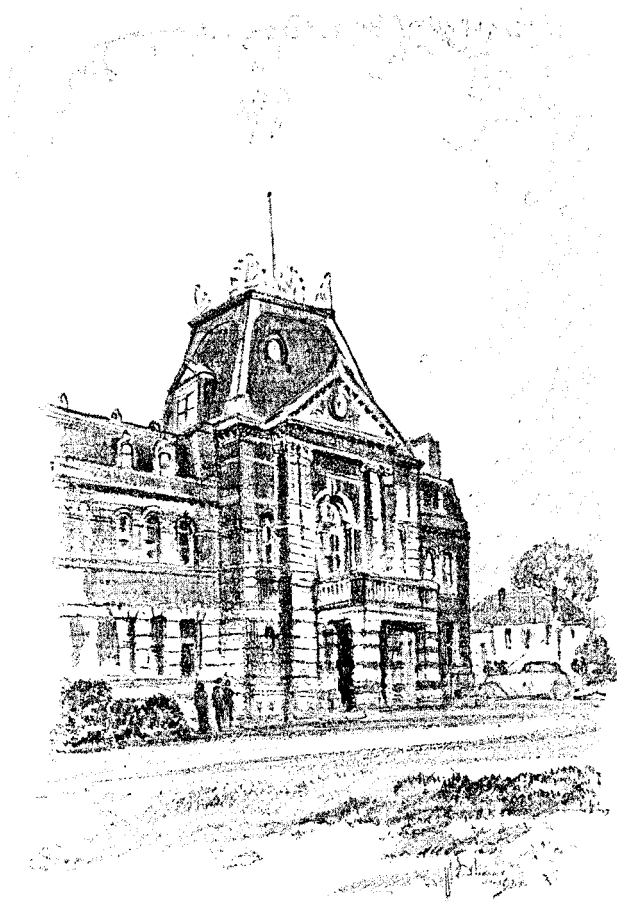
The entire establishment was destroyed by fire on the 17th of December, 1860.

The story of the architectural development of Manitoba until 1880 would be much like that of any other western community in North America. The style of architecture, if it can be so called, depended almost entirely upon the materials at hand. The necessity for economy dictated a simplified type of building with little or no ornamentation. The only attempt at a decorative *motif* on the exterior of the buildings was the simple transom window used over the entrance door. Here the wooden mullions were formed into geometrical designs of diamond and half circular shapes such as will be found over the entrance doorway to the Governor's house at the Lower Fort Garry. Occasionally, the door itself was decorated by interesting hand-carved panels. One of the best preserved of these is the doorway to the McKiever House called "Stornaway House" in East Kildonan.

The development was one of both sanity and simplicity. Domestic architecture resolved itself into a local adaptation of either the English or the French styles, but in an extremely simplified form. The architecture of the Anglican churches, such as St. Andrew's (Figure 4), old St. John's, Kildonan, were all English Gothic in their inspiration, with their pointed windows and square tower or simple spires.

St. Andrew's Church with its large square entrance tower has the dignity of the early Norman work in England. The doorway is attractively designed and in perfect keeping with the building itself. The treatment of the top of the tower which originally had louvred windows on four sides is an original conception of cupola designing and forms an interesting transition into the slender spire above. The stonework of both the church and the wall surrounding it is beautiful for the stone has taken on a rich colouring that contrasts well with the wide white mortar joints.

The second St. John's Cathedral, built in 1861 and 1862 to replace a small earlier building, was also of stone, the walls eighteen and a half feet above the ground. It was felt that the



OLD LAW COURTS BUILDING
(Figure 5)

roof of the old church had been too low, and in correcting this failing the gable was carried very high, again to the dissatisfaction of the critical. There was a large window at the back of the altar over seventeen feet in height and nearly nine feet in breadth. An account of that time describes the design of the interior of the building as follows:—"The pulpit is a model of good taste and good workmanship. Its appearance is excellent and reflects credit both on the designer and the carpenter . . . the pretty cornicing which fringes the Gothic panelling is really a thing of beauty. In this primitive place, where very plain though substantial work is the rule, such ingenious ornamenting is really pleasing to the eye. . . . The ceiling looks really well. To our uninitiated eye, a bolder or larger pattern would have been quite as pretty in the ceiling, for at such a height, a dim day might make it look like plain common painting in dark yellow."⁷

The Victorian Gothic movement, with its endless machine-like ornamentation, and its thin, cast-iron imitations of the hand-carving of the Middle Ages, had little effect upon these small church buildings which went for their inspiration directly to the rural chapels of France or England. The great land boom of 1881 with the mushroom growth of buildings which accompanied it, ushered in a style of architecture even less inspired, if that is possible. Sometimes called the Parvenu Period, it was a vain attempt to copy the elaborately over-decorated style of architecture being used by Visconti on the additions to the Louvre, a part of Louis Napoleon's great building programme. Picturesque and romantic seem to be the best terms in which to describe this conglomeration of mansard roofs, cupolas, porches and oriel windows, portecocheres and bays. Narrow, high windows, narrow, high porches, and narrow, high rooms, all seemed to be struggling upward toward the pinnacles that crowned the narrow, high roofs. The Italian influence was heavy in alternating bands of white stone and dark brick, and the columns with their large, flowering capitals. Much of the detail was thin and scant and awk-

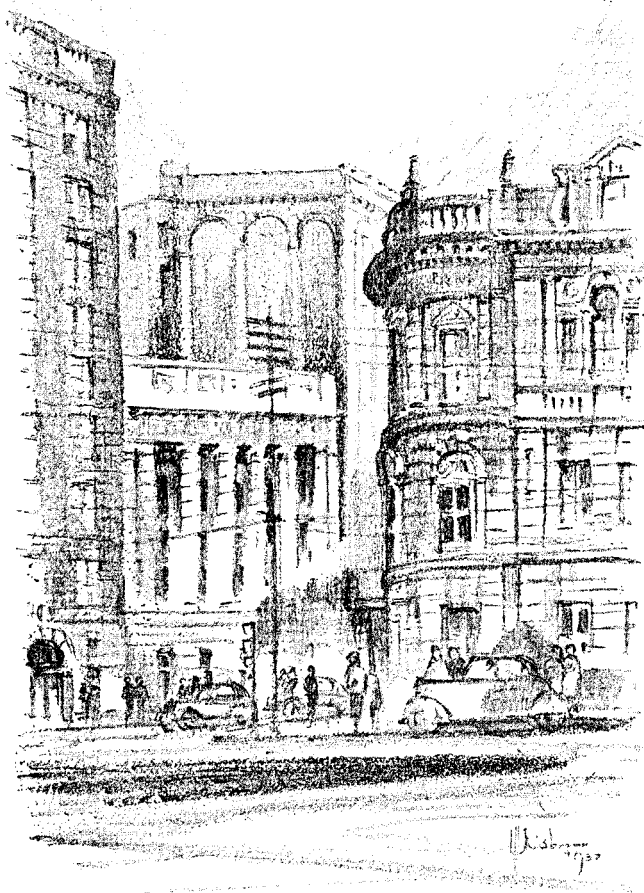
⁷*The Nor'wester*, Nov. 4, 1862.

ward, unbeautiful and repellent, a sorry attempt to reproduce alien *motifs* with which we had neither understanding nor sympathy. There were many buildings of this style built in Winnipeg during the last two decades of the past century, and they seem to be little more at home here than they are in any other mid-western city. The cupola was apparently associated with wealth and respectability, and as such it was called upon to lend its prestige to all manner of buildings.

Few of the buildings belonging to this period are capable of inspiring us as do the great buildings of the Middle Ages or even of the Renaissance period in Europe. The repetition of narrow arched windows separated by thin stone pilasters lacked the practised eye and the sensitive hand of the Roman builder who thought not of style but of function. The Cauchon Building, now the Empire Hotel, is one which because of the repetition of similar *motifs* and the simplicity of its roof-line is satisfying, even with its wealth of unnecessary detail. The old Law Courts Building on Kennedy Street is an example of excellent proportioning of details to mass (Figure 5), a dignified ensemble which seems to express its function as a court of law.

It is extremely difficult to identify the prototypes of many of the buildings of this unusual period. In many there is a hint of the Venetian or the Lombardian or even the German influence, but undoubtedly the French tradition was followed with greater understanding and certainly with more pleasing results.

Main Street in those early days was lined with buildings which presented façades of tier upon tier of arcaded windows separated by slender pilasters—peculiar combinations and adaptations of those styles which we know as Venetian, Louis XIII, and the French Parvenu. Steep roofs ornamented with ornate iron cresting, roofs quarter circular in shape, roofs with high pinnacles at the corners, they were all the expressions of a self-conscious attempt on the part of a new country to emulate the glories of the past. In a few cases the results were not unpleasing, for extravagance of detail was often tempered by necessary frugality. Economy became an ally in simplifying



BANK BUILDINGS ON MAIN STREET
(Figure 6)

an over-ornate style and added a dignity which is seldom identified with extravagance.

There is a beauty in the French Romanesque façade of St. Boniface Cathedral and a charm in the towered Manitoba College and the chateau-like Wesley College which is a result of the simplification of details and an interesting treatment of stone surfaces.

The Eclectic Movement in architecture which began about the turn of the century has had a decided effect upon the architecture of Manitoba over the past thirty years. The tendency to associate the heavy dignity of the Classic orders with the design of bank and government buildings led to the use of the Roman orders on the Bank of Montreal and the Canadian Bank of Commerce on Main Street (Figure 6) and the application of Classic details to the new Law Courts and the Parliament Buildings. It was the Eclectic movement as well as our traditional association of Gothic architecture with religious buildings which was responsible to a great extent for the number of churches in the Gothic Style erected during the past few years in this locality.

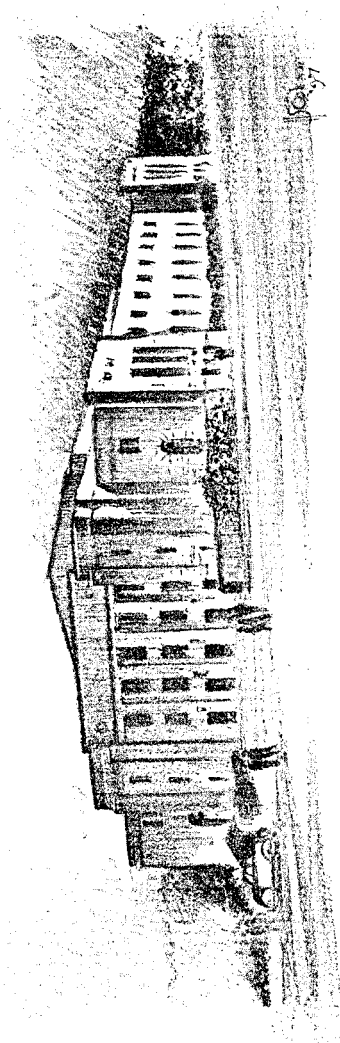
Our office buildings followed the style which seemed almost to be universal at that time—the traditional Italian Renaissance with its heavy cornice and heavily rusticated stonework. This expressed not at all the steel framework which actually supported the building. Indeed there was even a futile attempt to convince us of the stability of this thin veneer of stonework and to make it look like a bearing wall by carrying heavy stone belt courses across the building at the floor lines. The cornices were designed to be in proportion to the building's height, necessitating widely projecting stone courses which hung precariously over the sidewalk below. This fallacy was soon corrected and the cornice became merely a band of brick or stone with little or no projection beyond the face of the building and forming a suitable crowning feature.

The Gothic tradition has been used very successfully in several business buildings in Winnipeg, the vertical lines logically expressing the vertical supports of the steel framework.

Our domestic architecture has been influenced to a large extent by the English and French traditions. The stone and half-timbered houses with their great stone and brick chimneys, bays and oriel windows, are easily traceable to the Tudor houses of the sixteenth century England. Unfortunately there is often insufficient lawn surrounding them to provide a proper setting for a house of this type. Gardens and trees are essential if a house of rustic architecture is to be effective and there should be heavy foliage to neutralize the bizarre effect of contrasting stone and brick, half-timber and plaster. There is too often the tendency to incorporate too many interesting details into one small house with a resulting hodge-podge of unrelated units.

The French style has been used in residential work with great success for it usually calls for simple masses, a certain symmetry of door and window placing and a careful selection and combination of materials. The Georgian Colonial has been very popular and has many advantages in this climate, for it is best expressed in compact form providing for greatest economy of heating. The requirements of a symmetrical façade eliminate the possibility of irregularity which so often detracts from dignity and repose, and calls for simplification of detail, for small scale, and for interesting combinations of colour and materials.

The so-called Modern Movement of the past few years has brought a style of architecture which seems most expressive of the flat plains as well as possessing the simplicity and functionalism so essentially a part of the pioneer work in this community. The plain wall surfaces, the simple masses and the horizontal lines of the Winnipeg Civic Auditorium seem to be a true expression of a country where the horizon is unbroken and where distances are so great that small scale and needless detail are incongruous (Figure 7). The same might be said of the Parliament Building as it is seen silhouetted against an evening sky, the detail lost and the mass an unbroken horizontal outline stepping gradually upward to the magnificent climax of the dome. Here all of the unnecessary



CIVIC AUDITORIUM, WINNIPEG
(Figure 7)

surface embellishment is obliterated and we see the building as it must have been originally conceived by the architect.

Modern architecture has become dissociated with style. It is meant to be a masterly and magnificent play of masses brought together in light. It is interesting to note that the grain elevator has been selected by the European critics as being most expressive of the modern movement in architecture in Canada (Figure 8). Le Corbusier, the famous French architect, says that the grain elevator is the magnificent first fruits of a new age, making use of the new elements which are the result of the modern engineer's calculations. Sheldon Cheney in his *New World Architecture* sees in the grain elevator's "majestic repetition of cylindrical forms the same beauty the world has so admired in the Greek stone column."

If the prairie has brought inspiration for the designing of a new basic architectural form it has also been an inspiration for the landscape painters. Paul Kane painted a series of canvases depicting life on the plains in 1846. This group of paintings was hung in the British Museum and with its vital presentation of buffalo hunting, fur trapping and Indian warfare, it represented Canada of the middle nineteenth century to the European mind.

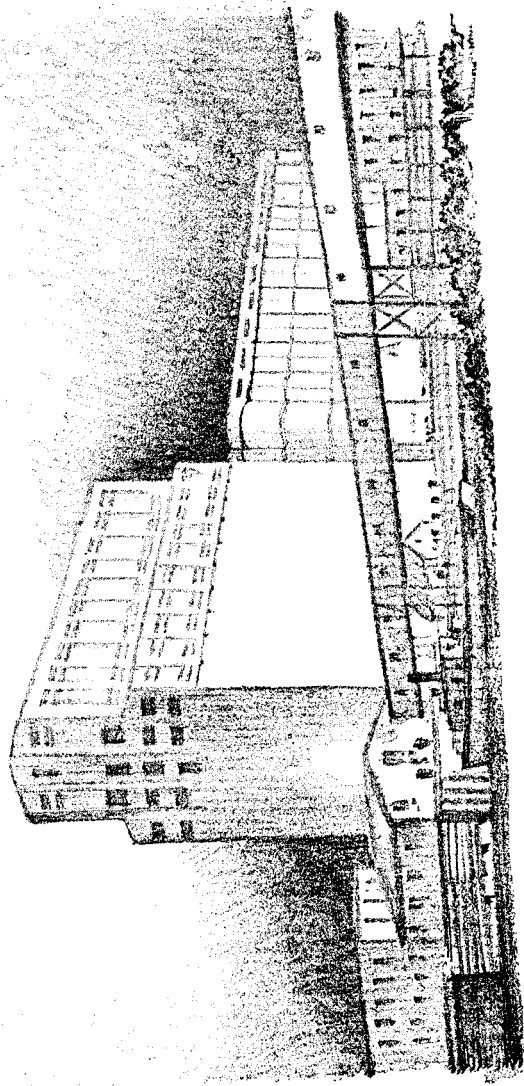
The famous Canadian painter Charles W. Jeffreys made in 1907 a series of landscapes of the rolling prairies, golden wheat fields, prairie towns and elevators.

Walter J. Phillips, R.C.A., has depicted with great charm the heavy rolling clouds of the approaching storm on the prairie through the medium of water-colour, oil and wood-block. His elevators show the loneliness of vast spaces and the immense blue-bowl of the sky which is so impressive to one unaccustomed to the unbroken horizon of flat land.

In all paintings of the prairie there seems to be the tendency to eliminate the vertical and to emphasize the horizontal lines. Boundless in extent, the prairie seems to make all man-made obstructions so trivial as to be of no consequence, and thus we hesitate to erect a building or to paint a picture which will break the spell of the horizontality of nature.

It is quite possible that the grain elevator with its simple, unadorned and functional forms and the landscape with its unbroken horizons may help to point the way to an architecture and an art in Western Canada that may have a character expressive of the prairies and even suggestive of the dignity and the progressive spirit of the people themselves. Our local building materials are most beautiful and effective when used in the plain, broad wall surfaces of the modern style. We are unhampered by the tight and uncompromising bonds of local tradition. Our country is young. Our possibilities for artistic expression are limitless. It is to be sincerely hoped that our works will be worthy of the prospect that lies before us.

Milton S. Osborne -
Dec 3rd 1937.



GRAIN ELEVATOR
(Figure 8)

THE RED RIVER PARISH:
ITS PLACE IN THE DEVELOPMENT OF MANITOBA

W. L. MORTON

IN 1870 the old order of the Red River Settlement passed into the new status of the province of Manitoba with such rapidity as to obscure the continuity of development from one to the other. Yet the date marks a crisis and not a cataclysm, and the province of Manitoba legally constituted on July 15, 1870, was substantially the Red River Settlement of July 14. Much that was inherent in the social and political organization of Red River became part of Manitoba. A major portion of this transmittal was the Red River parish.

In the erection of the new province the parishes, whose white-washed houses clustered on the points and bays of the Red and Assiniboine Rivers, gave their outlines to the various administrative districts. In these demarcations to some extent the Red River parish endures to this day as a civic as well as an ecclesiastical unit. Obviously there is here a direct devolution from the Settlement to the Province. Moreover, that such use should have been made of the original parishes suggests that they were other than the term ordinarily denotes, and that their role in the life of the Settlement was important and perhaps unique.

An understanding of the position of the parish in Red River requires some general comprehension of the nature of the colony itself. The Settlement was peculiar not only in its geographical isolation, and in its economic foundations, but also in its social organization. It had all the characteristics of a frontier except the essential one of continuity with other settlements.¹ Its base was neither at tidewater nor in the parent

¹Report of Select Committee on the Hudson's Bay Company, 1857; p. 331; evidence of Edward Ellice.

country, but, until the middle of the nineteenth century, in itself. If a frontier, it was a frontier of anticipation, insulated by wildernesses scarcely penetrable, and in consequence stagnant. The Settlement was an adjunct, not of civilization, but of the fur trade. The Hudson's Bay Company was the prop of its economic life, and the upholder, in lieu of political institutions, of law and order. But the social aspects of the life of Red River had developed around the church. From this point of view the Red River Settlement was a congregation of missions. These missions were called parishes.

They were parishes only by convention.² They did not enjoy legal existence until after the formation of the province, nor were they, for the most part, self-sustaining.³ Basically the parish was a settlement, which had either grown up around a mission, or in which a mission had been established. Accordingly the parishes were the natural, as well as the ecclesiastical, units of the Settlement, each with its church and school and its own communal life. Nothing could follow more inevitably than that they should constitute the nuclei around which should be formed the administrative divisions of the new province. Why the parishes became electoral divisions is a tale of somewhat more significance.

The above statements are confirmed by the history of the growth of the individual parishes. It is a well-worn tale now that the Roman Catholic fathers, Provencher and Dumoulin, at the invitation of Lord Selkirk, began in 1818 the first mission in the West. The Hudson's Bay Company was indeed here before Christ. The fathers established themselves on the grant of land assigned them by Selkirk on the east bank of the Red opposite the Forks, where the Assiniboine unravels its loops in the unhurrying Red. Here were settled French-Canadian and half-breed servants of the North-West Company, and to the east, where the Seine twisted through crumbling banks, the Swiss and German colonists of the disbanded

²Dawson's Report on the Red River Expedition, 1859; Letter of Bishop Taché to Dawson, Feb. 7, 1859.

³Machray: *Life of Archbishop Machray*, pp. 123-4.

De Meuron regiment. In honour of the patron saint of the Germanic people the mission was named St. Boniface. From the first seasons' tent to chapel, from chapel to church, it progressed. This growth typified, in the primitive conditions of Red River, the development of all the later parishes. A school, in time to become St. Boniface College, was begun. The fathers laboured to induce the restive voyageurs and hunters to settle their families around the establishment. Through the vicissitudes of flood and famine, and against the pull of those ties which drew priest after priest—always excepting the indomitable Provencher—back to the home parishes of the St. Lawrence, the mission grew. In 1822 it became the seat of the Bishop of Juliopolis *in partibus infidelium*, and in 1848 the seat of the Bishopric of St. Boniface. The later Roman Catholic missions were propagated from the parent stock of St. Boniface.

The Reverend John West of the Church of England, at the invitation of the Hudson's Bay Company and with the support of the Church Missionary Society, came out in 1820 to the Red River Settlement. He founded the church of St. John on the land granted by Selkirk to his settlers for religious and educational purposes. This was about two miles below the Forks, on the west bank of the Red, as all the English churches were, although the parishes traversed the river. The Red River Academy, first beginning of St. John's College, was founded for the training of a native ministry and the education of the sons of employees of the Hudson's Bay Company. His congregation was drawn from these employees and from the Selkirk settlers of Kildonan to the north, who lacked the services of a Presbyterian minister. This parish of St. John's was the cornerstone of the Church of England in the West, and in 1849 became the seat of the Bishopric of Rupert's Land.

The Roman Catholic missionaries had also opened a mission at the buffalo hunting post at Pembina, some seventy miles up the Red River. After the survey of the international boundary line laid down by the Convention of 1818 this was found to lie in the territory of the United States. Thus a large portion of the

Selkirk purchase was lost, and Mr. Halkett, Selkirk's executor, brought pressure to bear on Provencher to have the French inhabitants move back into British territory.⁴ This the majority of them did, and they settled on the comparatively high land of Prairie du Cheval Blanc, some twenty miles westward from St. Boniface in the oak groves fringing the Assiniboine. Here in 1824 Father Destroismaisons began a mission which developed into the large half-breed parish of St. François-Xavier.⁵ In 1827 the population increased greatly as the amalgamation of the North West and the Hudson's Bay companies—carried out in 1821—released servants, who came to settle at Red River. Here, for instance, Cuthbert Grant and Pierre Falcon, the warrior and the bard of Seven Oaks, ended their roving and fighting, and became, the former as the Warden of the Plains, honoured citizens of the settlement. Here too, was a rendezvous of the buffalo hunts, which were the chief occupation of a majority of the French half-breeds.

The second English parish was founded by the Reverend David Jones of the Church of England and the Church Missionary Society in 1825, on Image Plain, some six miles down the Red River from St. John's. It thus lay just to the north of Kildonan. This was St. Paul's, but on the establishment of St. Andrew's in 1829 near the Grand Rapids some thirteen miles lower down the Red, it became known as the Middle Church, and the old local name of Image Plain, with its suggestion of magic, passed out of usage.

The Reverend William Cochrane of the Church Missionary Society, a man of magnificent achievements, was the founder of the Lower Church, St. Andrew's, where the limestone ledges of the Grand Rapids ruffled the usually placid Red. This settlement was composed of the retired servants of the Company, Orkney men for the most part, who brought their Indian wives and half-breed children to the quiet, and the social and educational facilities of Red River. St. Andrew's

⁴Lettres de Mgr. Joseph-Norbert Provencher; Bulletin de la Société Historique de Saint-Boniface; Provencher to the Bishop of Quebec, Aug. 11, 1822, p. 75.

⁵*Ibid.*, Provencher to the Bishop of Quebec, Feb. 2, 1826, p. 112.

flourished beyond all the other English parishes, and had in 1870 the largest population.⁶

From St. Andrew's, Cochrane passed on to the formation of the Indian mission of St. Peter's yet lower down by the marshes of the Red River delta. Here a purely Indian parish was built up among the followers of the famous chief, Peguis.⁷ St. Peter's had its Catholic counterpart in the mission of Father Belcourt at Baie St. Paul on the Assiniboine above St. François-Xavier.⁸

These were the original parishes of Red River. The other foundations were later in time and in many cases offshoots. All were essentially missions, supported by clergy and funds drawn—with the exception of grants from the Hudson's Bay Company—from England or Quebec. To christianize and to civilize were complementary endeavours in the more primitive settlements. The missionaries sought to give not only religious aid but also secular instruction both literary and manual. The chapel or church, with its twin the school, formed the spiritual and actual focus of the houses and clearings. In these labours the lot of the Catholic missionaries was the harder, for they had on the whole much more intractable material with which to work. "Pour civiliser ces familles demi-sauvages il était indispensable de les grouper en paroisses, et de leur faire abandonner des habitudes qui, chez elles, étaient comme une seconde nature."⁹ As such rough spade work was done there arose along the two rivers settled habitations, "grouped in parishes", and standing on the narrow farms running back from the banks in a style reminiscent of the "côtes" of old Quebec. The parish incorporated as it fostered the communal life of the settlements, and served the educational and religious needs of the inhabitants.

By 1870 these seven parishes had become twenty. The augmentation was the result of the natural increase of the population.

⁶Canada Sessional Papers, 1871, V, No. 20, Archibald to Howe, Jan. 4, 1871.

⁷The details of the founding of the English parishes are drawn in great part from Tucker's *The Rainbow in the North*, a publication of the Church Missionary Society, 1849.

⁸Morice: *Histoire de l'Église Catholique dans le Nord-Ouest*, I, p. 193.

⁹Dugas: *L'Ouest Canadien*, p. 7.

Among the French parishes the spread was generally upwards from the Forks, or Upper Fort Garry. In 1855 the settlement on the Rivière Sale became the parish of St. Norbert. Ste. Agathe, not properly a parish until 1872, was reckoned as one in the Red River sense of being a settlement enjoying more or less regular religious services. A convent was founded in 1860 at St. Vital and around it a parish arose. Southeastwards from Fort Garry, "dans ces prés fleuris qu'arrose la Seine", religious services were begun in 1864 at what became Ste. Anne-des-Chênes.¹⁰ Ten years earlier St. Charles had been founded on the Assiniboine below St. François-Xavier. Meanwhile a wandering mission begun at Duck Bay on Lake Winnipegosis in 1842 finally settled in 1858 at St. Laurent on the southeastern shore of Lake Manitoba,¹¹ where some settlers from St. François-Xavier had moved after the flood of 1826. With the exception of the Anglican mission at Westbourne on the White Mud River, a branch put out from the Portage settlement in 1859, St. Laurent was the only parish of the original province of Manitoba not on the river system of the Red and Assiniboine.

The later English parishes sprang up for the most part on the Assiniboine. In 1851 the indefatigable Cochrane defied the opposition of the Hudson's Bay Company, and began a settlement some sixty miles up the river at the old fur trading post of Portage La Prairie. This was peopled by migrants from the parishes on the Red, particularly from the Middle District.¹² From this parish of St. Mary's derived later St. Margaret's and St. Anne's at High Bluff and Poplar Point lower down the Assiniboine. Between St. Charles and St. François-Xavier the Reverend G. O. Corbett of the Colonial and Continental Church Society in 1853 established Trinity Church, Headingly.¹³ In the same year the Reverend W. H. Taylor of the Society

¹⁰Benoit: *Vie de Mgr. Taché*, II, p. 124.

¹¹Morice's comprehensive history is the chief source for these details.

¹²Report of the Select Committee, etc., p. 309; evidence of Col. Caldwell. *The Nor-Wester*, April 18, 1860.

¹³Report of the Select Committee, etc., p. 138; evidence of the Rev. G. O. Corbett.

for the Propagation of the Gospel began the parish of St. James about two miles above Fort Garry.¹⁴

On the Red there was a notable development when in 1851 the Presbyterian settlers of Kildonan obtained the long desired minister of their own creed, in the person of the Reverend John Black. They withdrew from St. John's and set up the parish of Kildonan between St. John's and Middle Church. The last of the pre-confederation parishes was created in 1861 when St. Clement's was formed out of the northern part of St. Andrew's.

The democratic constitution of the new parish of Kildonan, redolent of the strong leaven of Scottish Presbyterianism, cannot be passed by without notice.¹⁵ It scarcely admits of doubt that in it, and in the re-organization of the Anglican parishes by Bishop Machray in 1866 on the basis of self-support and self-government,¹⁶ there was a great stride forward in that integration of the English parishes that made them capable of meeting political contingencies in 1869 and after.

These were the parishes that comprised the Red River Settlement in 1869.¹⁷ They were primarily units of settlement organized for religious and educational purposes. In that year they were to assume political functions also. Did they, then, before that date in any way serve political needs in the colony?

The records yield practically no trace of the parishes being self-conscious political units. For one thing the small, isolated community around Fort Garry had no political life to speak of. The government was that of the Hudson's Bay Company, administered, after 1835, through a Governor and Council of Assiniboia, a district within a radius of fifty miles from Fort Garry. The administration was a seigniorial despotism, tempered by a Council appointed from among the clergy and leading inhabitants, and by the possibility of a half-breed

¹⁴Digest of the Records of the Society for the Propagation of the Gospel, p. 177.

¹⁵Oliver: *The Canadian North-West*, p. 399.

¹⁶Machray: *op. cit.*, chap. VII.

¹⁷cf. Bryce: *The Old Settlers of Manitoba*, Publications of the Historical and Scientific Society of Manitoba, p. 9.

revolt. The rule of the Company was mild, often benevolent, but never inspiring. Public works were provided for, laws suitable for the primitive needs of the community enacted, courts and a few police maintained.¹⁸ A certain political texture was given to the Settlement not only by the judicious selection of representative men for the Council, but also by the use of the jury system in the courts.¹⁹ In all this no account was taken of the parishes as such.

The parishes, however, did develop the habit of sending petitions to the Council. St. James in 1856 submitted a petition bearing on the sale of land by the Company.²⁰ In 1859 St. John's prayed that the Council would consider the matter of the sale of liquor to the Indians.²¹ Petitions increased in numbers in these years, particularly with respect to the custom duties imposed on goods entering from the United States. During the agitation begun in the sixties by Dr. Schultz and his Canadian party for annexation to Canada, several petitions were presented from different parishes praying that Schultz be appointed to a vacancy in the Council. These were accompanied by a counter petition, and were politely tabled by the Council.²² In 1864 it refused the petition of Portage la Prairie, which lay beyond the bounds of Assiniboia, that it be taken under the jurisdiction of the Council.²³ (Somewhat later that rising settlement performed the major political act of proclaiming itself a republic, and entered into communication with the British Foreign Office. The effort, however, proved to be beyond its capacity, and that attempt at political organization collapsed.) Beyond petitioning it would seem that before 1869 the parishes played no political part whatever. How little occasion or incentive there was to do so any consideration of the position and condition of the Settlement will make clear.

Two things there were, however, that made possible the

¹⁸See Oliver, Part I, for details.

¹⁹Gunn (Tuttle): *History of Manitoba*, p. 292.

²⁰Oliver: p. 456.

²¹*Ibid.*, p. 437.

²²*Ibid.*, p. 573.

²³*Ibid.*, p. 572. *The Nor-Wester*, May 20, 1864.

political role of the parishes after 1869. The first was the fact, already indicated, that the parish organization gave the dispersed Settlement foci that made possible discussion and concerted action. It would be a safe guess, in the lack of evidence, that the petitions were drawn up and signed in the parish schools, in the same manner that the first election meetings of the Province—and many since—were held.²⁴ An intimate glimpse of parish life is given by a writer of Red River descent in the following passage. "The churchyard was the modern representative of the Athenian marketplace, so far as the giving and receiving of news was concerned. . . . The Sabbatarian ideas of these people were, for the most part, strict enough; but I suppose they looked on this parliament as a sort of family gathering to talk over family affairs."²⁵

The other was the part played by those of mixed white and Indian blood—in French, the Métis—in the events which replaced the rule of the Hudson's Bay Company by self-government within Confederation. The Settlement was divided, linguistically rather than racially, into French and English parishes. This division religion and race indeed reinforced. But the Red was never an Ottawa; the West had no seigniority of Longueuil. In part the tolerance fostered by frontier conditions blunted the cleavage between the two major sections of the community. Much more effective was the tie of Indian blood, for a striking feature of the history of Red River is the increase in the degree of Indian blood by 1870.²⁶ "Go through the length and breadth of the Settlement," said Mr. Fraser, delegate from Kildonan in the Convention of February, 1870, "and you will find the people forming a long link of family connection."²⁷ A member of the earlier convention of November, 1869, Mr. Tait, replied to an appeal of a member of the Canadian party, "You may talk, but in that convention we sit opposite those who were born and brought up among us,

²⁴*The Manitoban*, Nov., Dec., 1870.

²⁵MacBeth: *The Romance of Western Canada*, pp. 105-6.

²⁶The Bishop of Montreal's Journal, pp. 97-8. Stanley, G. F. G.: *The Birth of Western Canada*, p. 12. Canada Sessional Papers, V, No. 20.

²⁷*The New Nation*, Feb. 4, 1870.

ate with us, slept with us, hunted with us, traded with us, and are our own flesh and blood. . . . Gentlemen, I for one cannot fight them. I will not imbue my hands in their blood."²⁸ About the same time it was reported to Ottawa, "the whole population is a unit."²⁹ This was exaggerated, but the degree of unity was sufficient to give good ground for Riel's attempt to form a united front in presenting terms to Canada.

None the less the Métis played a distinctive role in Red River and in the crisis of 1869-70. They were not, as were the English settlers, primarily tillers of the soil. They were hunters and voyageurs. Their parishes were winter homes, their fields sufficient only for self-support at most. In the sphere of the fur trade the Métis collided from time to time with the monopoly of the Hudson's Bay Company. The buffalo hunt, with its necessary rules and strict discipline, gave them an organization which may be termed military, and which might be turned to political objectives, as in 1849, 1869, and 1885 it was.³⁰ When, therefore, from the decade of the forties onwards the mingled Canadian-American frontier pushed westward and northward through Minnesota,³¹ and the monopoly of the Company began to tremble before the advent of competition and settlement, the Métis became the spearhead of the forces which were dooming Company rule. The Sayer episode, when Louis Riel père raised the French parishes³² and won free trade in furs is the outstanding example of the latent power of the Métis. J. J. Gunn's verdict is sound when in writing of the voyageurs or "trip-men"; he says, "It was chiefly the uprising of this class and its kindred, the hunter-traders, that shook to crumbling the old regime and so made necessary and possible the establishment of the present order of things."³³

The Métis were different in this also, that they drew their

²⁸Canada Sessional Papers, III, No. 12.

²⁹*Ibid.*

³⁰cf. Hind: *The Red River Exploring Expedition*, I, p. 181. Stanley: *op. cit.*, p. 69.

³¹Sage: *Some Aspects of the Frontier in Canadian History*, Report of the Canadian Historical Association, 1928.

³²Dugas: *op. cit.*, p. 99.

³³Gunn, J. J.: *Echoes of the Red*, p. 58.

white blood from Canada, and not from overseas. The Roman Catholic clergy as well were in great part French Canadian. Hence to the Métis annexation to Canada meant not merely a new status under the British crown, as to the English settlers it did; it meant also union with and perhaps subordination to, Protestant and Anglo-Saxon Ontario. It might mean, as in the event it did, the importation into the West of the old and carefully nurtured hostilities of French and Anglo-Saxon Canada. This fear was confirmed by the activities of the small group of Canadians, who came into the Settlement in the fifties, and began to agitate against Company rule and press for annexation to Canada. How the actions of the Canadian government in the transfer of Rupert's Land to the Dominion strengthened the bad impression made on the mind of the Métis by these advocates of Canadian manifest destiny is well known.

Moreover there existed, quite apart from creed and French descent, the old, proud claim of the Métis to be a "new nation".³⁴ This assertion of dignity, by no means unjustified by a people who were, and who served as a buffer between white man and red, had political significance in that through their descent from Indian mothers the Métis claimed a share in the Indian title to the lands of the West.

In these factors was every reason for caution and consideration on the part of the Canadian government in taking over Rupert's Land. But the transfer was bungled, and the active hostility of the Métis was aroused.

Their leader of twenty-five years of age, Louis Riel,³⁵ the twisted and pathetic patriot and prophet of the old West that died with him, had the support of the majority of his fellows, although there were some reluctant to acknowledge his leadership, who from time to time opposed him.³⁶ The traditions of

³⁴On this subject consult Auguste-Henri de Tremaudan's *Histoire de la Nation Métisse dans l'Ouest Canadien*.

³⁵The youth of the Métis leader is properly stressed in Mr. D. Mackay's *The Honourable Company*. (Toronto: McClelland and Stewart, 1936.)

³⁶Begg: *The Creation of Manitoba*, p. 219. The New Nation, Feb. 3, 1870, Debates on the Bill of Rights.

the buffalo hunt gave him an organization that followed a leader with ready discipline. In addition he had in his general policy the measured support of the Roman Catholic clergy, but was rather the leader of a frontier community resisting submersion, than "the secular arm of the Church".³⁷ His major problem, after excluding the Canadian Governor MacDougall and seizing Fort Garry, was to win the support of the English parishes in order to present a common front to Ottawa.³⁸

To do so he invited the English parishes to elect twelve delegates to meet with the twelve members of his Comité National—twelve was the number of the council of the buffalo hunt—and to form a convention to discuss terms to be submitted to Ottawa. The invitation had a mixed reception among the English, because they did not wholly share the French distrust of Canada, and were sure that Great Britain would see that justice was done. But the Anglican clergy advised co-operation in order to avoid the bloodshed that the action of Colonel Dennis and Canadian sympathizers threatened, and the ties of blood and interest were strong. The parishes elected ten delegates with limited powers, and the village of Winnipeg two.³⁹ This election was the first formal political act of the English parishes. The French delegates were not on this occasion chosen by parishes. How the elections were carried on, what discussion took place, what currents of sentiment conflicted, can only be surmised. It is sufficient that, when its political destiny was for the moment thrust into its own hands, the Settlement acted—without the least self-consciousness, as the absence of record indicates—by parishes.

The Convention met on November 16, 1869, and agreed on a Bill of Rights, but a rising of the Canadian party jeopardized the unity established. There followed a period of uncertainty which was resolved by the arrival of Mr. Donald A.

³⁷Martin: "The First 'New Province' of the Dominion", *The Canadian Historical Review*, Dec., 1920, p. 367.

³⁸Stanley: *op. cit.*, p. 71.

³⁹This excessive representation may have been owing to Riel's desire to have the support of the more radical elements, i.e. the Americans, in the Settlement.

Smith, of the Hudson's Bay Company, as Commissioner for the Canadian government. After the mass meetings in January, 1870, to which Mr. Smith revealed the intentions of Ottawa, it was decided to elect a convention to be composed equally of French and English delegates to the total number of forty, to meet and discuss terms of union with Canada. The number of delegates a parish might elect was determined by committees of the two sections of the population for their respective parishes. The apportionment was roughly according to population, and ranged from one to four. The Convention so constituted drew up, by no means harmoniously, a second Bill of Rights. It also chose an Executive Council, under the presidency of Riel, and agreed to the establishment of a Provisional Government on a wider basis than that of Riel's dictatorship and the armed forces of the Métis in possession of Fort Garry. This wider basis was to be furnished by a Council of twenty-four members, twelve French and twelve English.

At this point the columns of *The New Nation*, Riel's organ, afford a certain amount of information. The electorate was composed of all the male residents of twenty-one years or over. The mode of election was by public meeting.⁴⁰ Here no doubt we have the usage of the two previous elections.

Such was the popular basis of the Provisional Government that nominally governed the Settlement until the arrival of the Red River Expedition.⁴¹ It is not meant to suggest that there was much governing to be done,—in that happy, bucolic era haying was more important than politics—or that there were no dissidents. There were such among Canadian sympathizers in certain English parishes, notably those which had had Canadian clergy, Kildonan and the parishes up the Assiniboine.⁴² Moreover, the expedition from Portage la Prairie, undertaken to release members of the Canadian party imprisoned in Fort

⁴⁰*The New Nation*, Feb. 11, 1870.

⁴¹The Provisional Government was never formally recognized by the Canadian government.

⁴²That is, Rev. John Black, Kildonan; Rev. James Nisbett, at the Presbyterian community of Little Britain in St. Andrew's parish, 1862-66; Rev. George Young, in Winnipeg and the upper Assiniboine parishes, 1868-70; see his *Manitoba Memories*.

Garry since December, troubled once more the relations between French and English, and led Riel into the fatal blunder of the execution of Scott. The point is that before it became part of Canada the Red River Settlement of its own resources had mustered a militia and created representative institutions. The native origins of these were the buffalo hunt and the Red River parish.

Of this framework of government the parish was to pass into the organization of the new province. The Métis buffalo hunters were for the most part to trek westward beyond the provincial boundaries, before once more being goaded into resistance on the banks of the Saskatchewan by an arrogant civilization and a careless government.

The terms granted Red River, the generosity of which equalled the extent of the Ottawa government's previous mistakes, were embodied in the Manitoba Act of May 12, 1870. The necessity for terms the resistance to unconditional annexation by Canada had shown; the definition of the terms lay ultimately in the skilful hands of Bishop Taché of St. Boniface.⁴³ The resultant Act provided for a Legislative Assembly of twenty-four members, and for the division of the province into the same number of electoral districts, "*due regard being had to existing local divisions and population.*"⁴⁴ The instructions given to Lieutenant-Governor Archibald in the matter were identical.⁴⁵ In the face of what had so recently taken place in the Settlement, and of the evident policy of the Act to establish the new province on a footing of perfect equality as between French and English, the instructions left the new Governor and his two provincial secretaries, French and English, little scope. The census, moreover, revealed a nearly equal balance. Out of a population of 11,960, 1,600 were white, 560 Indian, 5,720 Métis, and 4,080 English half-breeds. Of the total 5,720 were Protestant, and 6,240 Catholic.⁴⁶

⁴³Martin: *op. cit.*, p. 369.

⁴⁴Sections 14 and 16.

⁴⁵Canada Sessional Papers, V, No. 20.

⁴⁶*Ibid.* (In round numbers.)

Dom Benoit relates that Archibald consulted the Bishop of St. Boniface in the matter of electoral districts, and received from his hands a plan of division which was approved by Archibald's English advisers, and made the basis of the Proclamation of December 16, 1870, which set up the provincial constituencies.⁴⁷ There is no reason to doubt the circumstances, although unfortunately no corroboration is cited. But after the events of the preceding twelve months any intelligent citizen might have done as much, for the twenty-four electoral districts of the Proclamation were essentially the twenty parishes, the four largest being divided in two, that sent representatives to the Council of the Provisional Government. The consultation with Bishop Taché is an example of that collaboration with all parties that Archibald so assiduously sought rather than a tribute to the political sagacity—which was very great—of the Bishop of St. Boniface.

So symmetrical a plan did not pass without comment. The *Toronto Globe* attacked it as unwise, as setting race against race. *The Manitoban*, a Winnipeg paper which warmly supported Archibald's administration, retorted that the government was striving to unite, not divide, the races. "For in all arrangements relative to both Districts and Divisions, creed and race have been left entirely out of sight . . ." It asserted that the provincial districts were natural units, and pointed out that the four Dominion constituencies made up of groupings of these were two of them mixed, one English, and one French.⁴⁸

In actual fact, without gerrymandering shameless even for that age, no other division was possible. The composition of the Council was based on the natural units of settlement and organization, and the composition of the Legislative Assembly perforce followed the same pre-determined lines. Not until immigration destroyed the balance of population by creating a preponderance of Protestant English, and adding new settle-

⁴⁷Benoit: *op. cit.*, p. 128; *The Manitoba Gazette*; Vol. I.

⁴⁸*The Manitoban*, Dec. 24, 1870.

ments to the old, were the electoral divisions changed.⁴⁹ Until that time Manitoba was the Red River Settlement in a new guise.

For similar reasons the judicial districts, the school districts, and the early municipalities followed the old parish lines, either individually or in groups.⁵⁰ The corpus of the province its past had created, and the Manitoba Act had breathed into it the breath of legal existence.

One question, however, arises. How far was this symmetrical representation of the French and English parishes the result of "existing local divisions in population," and how much of deliberate policy? That Bishop Taché and his clergy nourished a "little Quebec" policy is certain. That an attitude of flawless impartiality between French and English was necessary for Macdonald's government is manifest. None the less both statesmen and cleric were fortunate in that their material lent itself to their purposes, and that their policies were also common sense. Policy and the practical possibility for the moment coincided perfectly, and the existence of those policies ought not to be allowed to obscure the contribution that the Red River Settlement made to the new province, and might perhaps have made to the Dominion. That the Province was twice to strain severely the federal structure was owing to the dilemma of the amnesty problem, and to the School Question, the issue behind which was raised outside its borders, and pushed to a conclusion within by a temper largely drawn from Ontario.

This tentative inquiry into the place of the parish in Manitoban history yields one or two other considerations, which may not transcend those limitations that give local history its value. The history of the Province has been dominated by the romance of the fur trade, and by the federal issues arising out

⁴⁹Mr. John L. Holmes, M.A., has written a very interesting thesis, *Factors Affecting Politics in Manitoba: A Study of Provincial Elections 1870-99* (M.A. thesis, unpublished, University of Manitoba) on this change.

⁵⁰*The Manitoba Gazette*, Vol I. Statutes of Manitoba; 34 Victoria; chs. 7, 10, 19, 35, 38. 37 Victoria; ch. 23.

of the transfer of Rupert's Land. It is perhaps time to turn to the aspect of frontier settlement. For the fur trade had its day, while the settlements so long growing in its shadow remained, and formed the first federally erected province of the Dominion.

But more than that. The development of the parishes suggests that Manitoba was not merely the creation of the Dominion and Imperial Parliaments. It was in many respects autochthonous, the offspring of the fur trade, the missions, and the deep soil of the Red River Valley. The Dominion recognized rather than created. The legal forms it set up conformed to, and were informed by, the exigencies and practicalities of the Red River Settlement. The parish, which had moulded Red River society, shaped also the outlines of the political organization of the new order.

THE LOYALIST MIGRATIONS: A SOCIAL AND ECONOMIC MOVEMENT

R. O. MACFARLANE

THE United Empire Loyalists occupy a unique position in Canadian History. In no other immigration movement on the North American continent have political factors played such an important part; but it was the time of arrival of these people, as much as the peculiar circumstances under which they came, that has hallowed their memory in the eyes of Canadian historians. The founders, real or imaginary, of any colony or province are almost certain to enjoy a lofty reputation among their descendants. Like the Pilgrims in Massachusetts, the Penn family in Pennsylvania, or the Calverts in Maryland, the Loyalists have been revered in New Brunswick and Upper Canada, and to almost as great a degree in Nova Scotia. It might well be contended that the very sanctity with which these "founders" have been regarded by their admirers, has raised more questions as to their reputation than any critical scholarship could have done. To illustrate, the New England Puritan, after having been bandied about by James Truslow Adams and some self-styled "new historians," now enjoys a sounder reputation in the pages of S. E. Morison than he ever did in the works of Fiske, or even in those of Channing.¹

The traditional view of the causes of the Loyalist migration has not been fair to the Loyalists. To argue that patriotism and love of British institutions was the sole, or even dominant motive behind the migration, as did John Graves Simcoe,² is

¹Adams, J. T.: *Founding of New England* (Boston, 1921). Morison, S. E.: *Builders of the Bay Colony* (Boston, 1930). Fiske, John: *New France and New England* (New York, 1902). Channing, Edward: *History of the United States* (New York, 1905).

²Cruikshank, E. A. (ed.): *Simcoe Correspondence* (Toronto, 1923-6) Vol. I, p. 18.

obviously an act of faith. In view of the petitions signed by many Loyalists, with regard to the acquisition of land, and constitutional reform in Upper Canada, this is convincing only to the faithful. While the works of W. S. Wallace, A. L. Burt, and C. H. Van Tyne all throw light on various aspects of the Loyalist problem,³ no one has yet concerned himself primarily with a critical study of the causes of the Loyalist migration in general. In older works by American writers, the Loyalists left because they were children of the devil; and in Canadian works of corresponding date they left because they were following the Lord,—neither of which explanation seems entirely satisfactory.⁴

The purpose of this paper is to suggest certain social and economic forces, which were in some cases fundamental to the political ones, in accounting for the exodus of the Loyalists from the American Colonies in the years between 1776 and 1784. The sources which have been consulted include the colonial records of the several American colonies, and in particular the Massachusetts Archives Collections; the Haldimand Papers; the Land Books of Upper Canada; and the Reports of the Commissioners hearing Loyalist claims.

In case the argument which follows should savour of heresy, if not sacrilege, a word of explanation may be inserted here. The decision to support the Crown, whether it originated in inherent ideals, in simple loyalty, in a desire to maintain law and order, in a traditional conservatism, or whether it developed from force of circumstances during the war, almost invariably forced the Tory along a road on which there was no turning back, and which frequently terminated in exile. Toryism then led to a series of social and economic conditions which made migration a necessity. The distinction between the traditional view of the causes of the Loyalist migration,

³Wallace, W. S.: *The United Empire Loyalists* (Toronto, 1914). Burt, A. L.: *The Old Province of Quebec* (Minneapolis, 1933). Van Tyne, C. H.: *The Loyalists of the American Revolution* (New York, 1902).

⁴Bancroft, George: *History of the United States* (Boston, 1834-74). Ryerson, Egerton: *The Loyalists of America and Their Times* (Toronto, 1880).

and the argument presented in this paper, may seem trifling, since loyalty is basic in each case. Nevertheless it is submitted that the theory of social and economic necessity explains more rationally, especially to those untouched by the Loyalist tradition, why so many people left the comparative comforts of a settled region to face the rigours of pioneer life in the bush, than does the usual case based on sentiment alone. It also explains why those persons who joined the Tory camp for reasons other than loyalty, were so often found among the exiles.

In any endeavour to explain the social and economic aspects of the Loyalist exodus it is necessary to consider the nature of the American Revolution. In the first place the Revolution must be regarded as a civil war. In Great Britain itself, throughout the duration of the conflict, there were many sympathizers with the American cause, although most of them kept pretty quiet once the fighting began. One of the more recent writers on the subject argues, with almost too much ingenuity, that even the Howes, commanding the fleet and the army, allowed their Whig sympathies to restrain them from striking the death blow at the American forces in the early campaigns of the war.⁵ Extreme though this illustration may be, it must be admitted that the British Ministry by no means enjoyed the unanimous support of the Whigs in its American policy.

On the other side of the Atlantic there was a more even division of parties. Most American historians agree that, while the greater part of the population showed amazingly little interest in the great constitutional issue, the active political forces were not very unevenly divided between the Whig and Tory camps when hostilities began. When the number of Tories who joined the King's forces, or supported the Crown in other ways is considered, the struggle in the Colonies appears more as a civil war than as a conflict between two nations.

⁵Bradley, A. G.: *The United Empire Loyalists* (London, 1932) pp. 70-5.

Revolution is merely successful rebellion. Two parties diametrically opposed to each other on the question of imperial relations became two warring factions when independence was declared. While many people managed to maintain a discreet silence, for the vocal there could no longer be indecision or a middle course. After July, 1776, each man who admitted a political opinion had to be either a "Patriot" or a "Loyalist"; he had to be for the New Republic or for the Old Empire.

Which party was to be patriot and which traitor was not so quickly determined. This could be ascertained only when one party emerged victorious from the war. It was the victory of the Whigs, rather than the righteousness of their cause, which made them the patriots. Each side was equally loyal, only to different political ideals and to different political units. The side that won would be the side that was right, and the losers could be sure that they would have to pay the penalty of losing. The difference between patriot and rebel was determined in the last resort by power.

The compulsion to throw in one's lot definitely with one party, if one was to have a political opinion at all, meant that bridges were being burnt, and that there would be small chance of retreat for the defeated. As in most wars each side was firmly convinced that it would win, if for no other reason than that of the justice of its cause. The Whigs realized from the outset that the road before them would be a hard one, and that the penalty of failure would be heavy. Consequently they spared no effort to effect the most efficient organization, and to mobilize every resource possible under the circumstances, in order to fight what was admittedly the strongest power in Europe.

The Tories, on the other hand, desiring to maintain the *status quo*, built up no efficient organization until it was too late for it to be effective. They chose to rely rather on what they firmly believed to be the omnipotent power of Britain. When this power became apparent, as for instance when Cornwallis carried out his extensive operations in the South, thousands of persons proclaiming their loyalty flocked to the

British lines. Many of these unfortunate people found themselves unable to follow the King's troops when they moved on, and were left, with their dependents and property, to the mercy of their enemies. It was success as well as sentiment and conviction which attracted followers to both camps. But for several years after the Declaration of Independence the outcome was very doubtful. In this interval many people bet on the wrong horse and when they lost the penalty of losing had to be paid.

This penalty was exacted in several ways, and with varying degrees of severity. Those who held no strong conviction and had taken no prominent part in the struggle, re-established themselves by abandoning their belief in monarchical government and the imperial connection. A certain amount of social ostracism was imposed, but soon their position was little different from that which they had occupied prior to 1776. A comparison of the number of persons who supported the Royal Cause in the Colonies with the number who actually migrated, even when due allowance for casualties is made, will show that this class was very numerous indeed, much larger than has been assumed, because little has been written about these people.⁶ It should also be noted that many of the Tories who remained in the Republic after the peace had been more active in their support of the Royal Cause than some of those who migrated.⁷

A definite distinction must be made between the Loyalist migration to the Maritime Provinces and that to Upper Canada. A corresponding difference has to be found in the causes of these movements. During the course of the war, and immediately after the signing of peace, large groups of Loyalists were taken to Halifax and St. John to find their way from

⁶Ontario Archives, *Report*. No. 2, 1904, pp. 11-3. Sabine, Lorenzo, *The American Loyalists* (Boston, 1847) p. 60. Adams, John; *Works*, (ed. C. F. Adams) (Boston, 1850-6) Vol. x, p. 193.

⁷An examination of the specific cases of Loyalists listed in Sabine, *op. cit.*, or Flick, J. H.: *The Loyalists of Massachusetts* (Boston, 1910) will illustrate this point readily. Much greater severity was shown in some sections than in others. Likewise animosity died down more quickly in some districts, permitting an early return of the exiles.

these ports into the river valleys and along the coasts of Nova Scotia and New Brunswick. The most important of these groups arrived after the evacuation of Boston, and following the final withdrawal of British troops from New York. Such migrations were necessary if the vanquished were to be saved from the vindictiveness of their successful enemies. In contrast with this movement, attention must be called to the peculiar nature of the migration into Upper Canada.

Many of the settlers who arrived in Upper Canada between 1776 and 1788, as well as those who came during the next ten years, were but part of the natural westward movement on this continent. When the Revolution broke out there was little land east of the Alleghanies available for settlement. The wild orgy of speculation in lands in the Ohio Valley in the sixties, seventies, and eighties was evidence of a new interest in the West. Prior to the coming of the railways, however, transportation of bulky agricultural staples was a serious problem in the development of the region. The Ohio-Mississippi route was slow and expensive. The St. Lawrence system, by contrast, was a much better route for the export of heavy commodities to the European market. It is little wonder then that the lands adjacent to Lakes Erie and Ontario seemed to many a frontiersman of western New York to be crying for settlers.⁸

Under such circumstances it is not surprising to find "land hunger" an important cause of immigration into Upper Canada in the early years of that colony's history. Since land was made available on much easier terms to Loyalists than to any other settlers, as many newcomers as could possibly do so, regardless of their background, claimed to be Loyalists. In fact after 1784 it is very difficult to separate "land hunger" from "loyalty" as a cause for immigration to the region adjacent to Lakes Erie and Ontario, particularly with respect to the "late Loyalists". This situation prevailed even after

⁸An examination of the Land Books of Upper Canada illustrates this point. See also Paxson, F. L.: *History of the American Frontier* (Boston, 1924) pp. 33-4. See Pratt, J. W.: *Expansionists of 1812* (New York, 1925) for the application of this thesis to the War of 1812.

a great effort had been made to purge these peoples' names from the Loyalist lists.

Professor A. L. Burt in his *Old Province of Quebec* notes that in an examination of over six hundred cases of Upper Canadian Loyalist claims listed in the Ontario Archives Report for 1904 there was found:

"not a single lawyer and only two doctors . . . A fair average claimant was a man who had abandoned a hundred-acre farm, often only leased, of which he had cleared no more than ten acres. While some claimed more, many had lost less. Five-sixths of all the cases came from New York, the rest chiefly from the interior settlements of Vermont, New Jersey and Pennsylvania".⁹

Professor Burt finds substantiation for this contention in the history of the western part of the Old Province of Quebec prior to 1791.

"The one dominant interest of all the people there was land, free land, and if possible freehold land. Their desire for English laws was secondary. . . . As pioneers on the very edge of civilization in the old colonies, about the only laws by which they had been consciously affected, were those touching land. Government had meant next to nothing to these independent backwoodsmen until they found it a benevolent agent in Canada, and an Assembly was something which had meant little if anything to them".¹⁰

As far as Upper Canada is concerned then, economic factors operated perhaps even more powerfully than political ones, in inducing many of the Loyalists to move toward the north and west.¹¹

It has already been pointed out that, as open warfare spread throughout the length and breadth of the Colonies, it became increasingly difficult to restrain the extreme element in each

⁹Burt: *Old Province of Quebec*, p. 361. It should be noted, however, that the Loyalist claims listed in this report are those of relatively late arrivals in Upper Canada. More professional people would be found among the earlier arrivals, especially among those who came in with the "Loyalist regiments".

¹⁰*Ibid.*, pp. 398-9.

¹¹This is particularly true of the migration into Norfolk County.

party. In fact the moderates were swept off their feet and were forced into a position which a few years earlier would have been unthinkable for them. Thus it became impossible for either group to turn back, or to moderate its view, no matter how much particular individuals wished to do so. Even so prominent a Whig as John Adams wrote, "there was not a moment during the Revolution, when I would not have given everything I possessed for a restoration to the state of things before the contest began, provided we could have had a sufficient security for its continuance."¹²

As the degree to which each party committed itself increased, the stakes for which they fought became larger, and the penalty which would fall on the loser was enhanced accordingly. Thus the bitterness which usually characterizes civil war developed.¹³ As it became apparent that the Loyalists had their all on the wrong horse, their plight became pitiable, and emigration seemed less unpleasant than being left to the mercy of the Whigs. Washington thus describes the fate of the Tories when Boston was about to be evacuated. "They were at their wits' end, and, conscious of their black ingratitude, they chose to commit themselves, in the manner I have above described, to the mercy of the waves at a tempestuous season rather than meet their offended countrymen."¹⁴ In other words, migration, as the lesser of two evils, was a necessity.

The inadequacy of the Treaty of 1783 to protect the Loyalists and their property increased the importance of this factor. Even after Rodney's victory the British ministry found itself facing an embarrassing military and naval situation. Apart from the American arena where things had gone so badly, Britain was still at war with France, Spain and Holland in Europe. To escape from the dilemma by dividing their enemies the British negotiators accepted most of the American demands in order to gain the preliminary terms of 1782 with the revolting colonies. The importance of securing the ad-

¹²Quoted in Sabine, *op. cit.*, p. 67.

¹³Ryerson, *op. cit.*, Vol. ii, pp. 123-153.

¹⁴Quoted in Sabine, *op. cit.*, p. 14.

herence of the Americans to this arrangement made it impossible for Britain to press her demands for the protection of the Loyalists. Nevertheless, in order to save the reputation of the ministry, some mention of the Loyalists had to be made, both in the preliminary instrument, and in the final treaty of peace. The clauses, which provided for promises made by Congress being carried out by the states,¹⁵ over which Congress had little real control in such matters, fulfilled the requirements of the negotiators of the treaty. Both sides were satisfied, but the Loyalists received little, if any, actual protection.

That necessity, social and economic, was a basic factor underlying the migrations can be illustrated further by a comparison of the lists of people who went to England and the West Indies with those of people who came to Canada and the Maritime Provinces. In general those who could afford to cross the sea, and who had some chance to establish themselves in Britain or the Indies, did so.¹⁶ Canada or the Maritimes, being nearer, received a larger number of exiles, but the Motherland and the West Indies received a disproportionately large share of the wealthy and socially elite.¹⁷

In no way is the absolute necessity of the migration made clearer than by an examination of the number of instances in which Tories were literally driven out of the community, sometimes astride a rail, at other times under a coat of tar and feathers. The pages of Sabine, and the Reports of the Commissioners who heard the Loyalist claims are filled with instances of persons "proscribed and banished". To maintain that these people left the American Colonies because they disliked republican institutions and loved monarchical ones, that they hated the Republic and loved the Motherland, is to support a half truth. Because of their ideals, and because of

¹⁵Clauses V and VI of the Treaty. Printed in Short, A., and Dougherty, A.G.: *Documents relating to the Constitutional History of Canada*, (Ottawa, 1918) Vol. ii, pp. 728-9.

¹⁶Trevelyan, G. O.: *The American Revolution* (London, 1905), Vol. iii, pp. 232-42. Sabine, *op. cit.*, pp. 376-7, 418, 518-29, 531-5.

¹⁷See for examples, Ontario Archives, *Report*, 1904, pp. 131-3, 684-6, 929-30, 1289. Flick, *op. cit.*, p. 172.

their loyalties, they had placed themselves in a position which was untenable once the victory had gone to the Whigs.

Many of these loyal people had been so active in the defence of the Royal Cause that after the peace they could not be tolerated in the Republic, regardless of what views they professed to hold.¹⁸ They had been, and were still regarded as being, enemies of the state, and hence were not only objectionable but positively dangerous people. This group was harried out of the land. Many of them came to Canada and the Maritime Provinces because there was nowhere else to go. This is not to disparage the sacrifices of the Loyalists, but merely to point out that their loyalty to Britain forced them into a position which was not compatible with the success of the Revolution.

✓ Loyalty was the basis of this cause of the migration, rather than the cause itself. The Loyalists migrated because their cause was lost; their bet was on the wrong horse. But it is well to remember that most of the bets were placed before the race began, and some of them even while the losing horse was enjoying a temporary lead.

There was also an economic situation corresponding to this social one. Many Tories lost their living and it was quite impossible for them to keep body and soul together if they remained in their old homes. If a move to a new community was necessary, and life was to be begun anew, then many preferred the remaining British territory in North America, rather than some other part of the revolting colonies, but some chose the latter alternative.¹⁹

Office holders under the Crown were the most obvious class to lose their living. Nearly all officials of all grades were Tories. Men who lived in comparative ease and enjoyed the consideration and deference which rank and station confer, and

¹⁸For example, the following cases listed in the Ontario Archives Report for 1904: Terrence McAllister, p. 85; Jonathon Jones, pp. 105-6; Jacob Beehler, p. 109; Nathaniel Dickenson, p. 112; Alex. Barham, p. 122.

¹⁹Many moved into new communities where their political convictions were not well enough known to be embarrassing. This is particularly true of those who went west to the frontier.

had nothing to gain but much to lose by a change of government, viewed the dissensions which led to the Revolution with alarm. "They were appointed to execute the laws, and in obeying the instructions of the ministry at home to enforce the statutes of the realm, they did but perform common acts of duty".²⁰

Many officials firmly believed that the Whig leaders were needy and greedy office seekers. John Adams, Samuel Adams, Joseph Warren, George Washington, Richard Henry, Benjamin Franklin, it is true, had all been disappointed at not receiving appointments under the Crown. Their disappointment, combined with the suspicions cast on their motives by the Tory office holders, added a personal element to the bitterness of the conflict.

Examples of officials who lost their living with the Revolution are legion. A few of these will suffice to illustrate the point: public surveyors like Stephen Tuttle and Thomas Millidge; judges like Foster Hutchinson and Isaac Marm; official clerks like Samuel Paine; land inspectors like Timothy Ruggles; naval officers like Nathaniel Taylor; sheriffs like Walter Chalmer; Indian agents like Daniel Claus;²¹ and customs officials like Thomas Henderson. This list might be expanded to include hundreds of cases. With the loss of incomes up to £500 a year, and the unpopularity that their views on politics had won for them, there was nothing for these men to do but migrate.²² Foster Hutchinson, a graduate of Harvard, who had served as a councillor in Massachusetts, retired to Halifax with his family, and died there in 1799. Timothy Ruggles followed the army to Long Island and later took up land at Annapolis when he was seventy-three years of age. He died there in 1795.²³

Military men, many of them officers, as well as militiamen and volunteers, must be singled out as a special class of officials

²⁰Sabine, *op. cit.*, p. 37.

²¹As an Indian agent Claus was transferred to British territory. He did not lose his job, but he could not remain in the Republic and hold it.

²²Ontario Archives, *Report*, 1904, pp. 29-32, 70, 97-8, 333-5, 740, 922-3. Sabine, *op. cit.*, pp. 204-5, 213, 357.

²³Flick, *op. cit.*, pp. 177, 225-9.

under the Crown, both on account of their large number, and because of the special resentment harboured against them by the Whigs. In addition to such heterogeneous forces as those of Lord Dunmore, Governor Martin, Ferguson, Butler, and Sir John Johnson, there were many regiments of Loyalist troops regularly organized, officered and paid.²⁴ For many of these soldiers there could be no re-establishment in their old homes after the war, and migration was the only alternative.²⁵ A typical case of this sort was that of James Brittain. After seeing service throughout the war, he went to St. John in 1783, received a grant of a city lot, and settled down on half-pay. Later he became a magistrate for King's County.²⁶

Professional men who espoused the Tory cause also found themselves in an impossible situation. Among the clergy, the minister and his people were usually of the same party, but there were many instances in which a Tory pastor was dismissed and forced to leave the community. This was particularly true of the Episcopal clergy in New England where only two or three of this group sided with the Whigs.²⁷ Specific illustrations of ministers who lost their living include the Reverends George Panton, John Wiswall, Michael Kern, Jonathan Odell, John Hamilton, Mather Byles and Charles Inglis.²⁸ The last mentioned became the first bishop of Nova Scotia in 1787 and was a member of the Governor's Council in 1809. He died at Halifax in 1816.²⁹

Among the lawyers there were those who championed the

²⁴Sabine, *op. cit.*, p. 60 gives a list of some of these units. There were sixty-two Loyalist regiments in the King's service at various times.

²⁵For illustration see, Ontario Archives, *Report*, 1904, pp. 86, 93-7, 102, 129-34, 146, 150-1, 156-60. Sabine, *op. cit.*, pp. 176-7, 256-7, 267, 315, 319, 343, 355, 379, 439, 464, 466, 479, 541. A very large number of soldiers are listed in the "Old United Empire Loyalist List", published in *The Centennial of the Settlement of Upper Canada by the United Empire Loyalists, 1784-1884* (Toronto, 1885) pp. 129-332.

²⁶Sabine, *op. cit.*, pp. 176-7.

²⁷*Ibid.*, p. 50.

²⁸Ontario Archives, *Report*, 1904, pp. 53-4, 172-3, 262-3, 666-7. Sabine, *op. cit.*, p. 192. Samuel Seabury, later Bishop of Connecticut and Rhode Island was a conspicuous exception.

²⁹Eaton, A. W.: *The Church of England in Nova Scotia* (New York, 1891) pp. 124-5.

cause of the King. This was to be expected since lawyers as a class are usually conservative in attitude. Yet this Loyalist group was not so numerous as that which supported the Revolution, although it included several leaders at the bar. Most of these men had adequate means to re-establish themselves in the Motherland, and several did so.³⁰ Others, mostly in less fortunate circumstances, chose to go to Canada or the Maritime Provinces. Of the latter class a few became judges or government officials. Most of the remainder established themselves in practice among their fellow exiles. Included among the Tory lawyers were William Dummer Powell, Edward Fanning, Isaac Allen, Sampson Blowers, Benjamin Hilton and Ward Chipman.³¹ Powell later became chief justice of Upper Canada, an office which he held until his retirement in 1825.³²

Medical men as a group did not suffer during the war as did other professional classes. While the proportion of Tory doctors was high, most of them remained in the country and pursued their practice. "There seems to have been an understanding that, though pulpits should be closed and litigation be suspended, the sick should not be deprived of their regular and freely chosen medical attendants".³³ The persons and property of Tory doctors were

"generally respected in the towns and villages where little or no regard was paid to the bodies and estates of gentlemen of the robe and the surplice. Some, however, were less fortunate, and the dealings of the 'sons of liberty' were occasionally harsh and exceedingly vexatious. A few of the Loyalist physicians were banished; others, and those chiefly who became surgeons in the army or provincial corps, settled in New Brunswick or Nova Scotia, where they resumed practice."³³

³⁰For example, Peter Oliver and Joseph Galloway. Sabine, *op. cit.*, pp. 308-14, 491-2.

³¹Ontario Archives, *Report*, 1904, pp. 42-3, 248-9, 490-1, 562-3. Sabine, *op. cit.*, p. 208.

³²Read, D. B.: *Lives of the Judges of Upper Canada and Ontario*, (Toronto, 1888) pp. 28-42. See also Riddell, W. R., *Life of William Dummer Powell*, (Lansing, 1924).

³³Sabine, *op. cit.*, p. 53.

Among the physicians who were compelled to abandon their living were: Doctors James Boggs, Archibald Campbell, Nathaniel Bullien, Joseph Clark, James VanBuren, Robert Tucker, Peter Brown, William Brattle, and Josiah Jones.³⁴ Jones served in the army until 1782 when he settled at Annapolis and later he became a judge of the county court. Brattle removed to Halifax and died a few months after his arrival in 1776.³⁵

Publishers and editors were as divided as the professions between the Whig and Tory camps. Of thirty-one newspapers published in the Colonies in 1774, eight were Tory and twenty-three were Whig. Of this latter number, however, at least five supported the Crown at some time during the war. Editors of the Tory sheets and some of their contributors found their native haunts very uncongenial places of abode as the struggle turned in favour of their opponents. It became highly desirable for the welfare of their bodies, as well as for the peace of their minds, that they seek residence outside the jurisdiction of Congress. Daniel Leonard (afterwards chief justice of the Bermudas), Nicholas Humphries, Nathaniel Mills, and John Howe, are examples of journalists who were forced to flee the country.³⁶ John Howe, father of the *Tribune of Nova Scotia*, went to Halifax where he set up a press and published a paper. He also became King's Printer and for a time was Postmaster-General of Nova Scotia.³⁷

Many business men and artisans found themselves, as a result of the war, in a position not unlike that of the above mentioned classes. The reports of the Commissioners hearing Loyalist claims show that wholesalers, retailers, importers, exporters, shippers, builders, carpenters, blacksmiths, silver-smiths, iron-mongers, tanners, shoemakers, painters, glaziers and many other classes contributed their share to the numbers who were proscribed and banished. These people had lost

³⁴Ontario Archives, *Report*, 1904, pp. 36, 132-3, 180-1, 251-2, 544, 652-3, 689-90. Sabine, *op. cit.*, p. 501.

³⁵*Ibid.*, pp. 174, 403.

³⁶*Ibid.*, pp. 370, 373, 419, 469.

³⁷Flick, *op. cit.*, pp. 362-3.

their custom to an equal degree with the professional classes, and their migration was just as much a necessity, for no longer could they earn their living in their old haunts.³⁸ Robert Pagan, to illustrate with the case of a man who did better than average for himself, was a merchant of Falmouth, Maine, who was proscribed and banished in 1778. He settled at St. Andrew's, New Brunswick, where he served as a government land agent, and later as a magistrate, judge, and colonel of militia. He was a leading citizen of St. Andrews and held a seat in the provincial legislature for several years.³⁹

Finally there was a large group who lost land and chattels, on which a living depended. Some of these people were large holders like the Johnsons. Others had only small farms, or in some cases just leases. If their defence of the royal cause had been vigorous, it was impossible for them to continue as aforetime, and large numbers of these people sought refuge from their enemies, and a fresh start in life in Canada or the Maritimes. Illustrations of the exodus of this class of person are contained in almost every page of the reports of the commissioners who investigated the Loyalist claims.⁴⁰

In presenting what might on the surface appear to be a case against the Loyalists, one would point out that "simple loyalty" undoubtedly brought some people to British North America during and immediately after the American Revolutionary War. There has been no intention of glossing over this factor. It has not been dwelt on at length, only because it is so well known. Nevertheless there were many who migrated unwillingly because they could not carry on in their old homes. In addition there was around the genuine Loyalist group a fringe of people who managed to have themselves classed as Loyalists, for land grants or other purposes. This fringe did not reflect credit on the Loyalists proper, or their ideals.

³⁸Ontario Archives, *Report*, 1904, pp. 38-41, 54-5, 59-60, 77, 92-3, 139-40, 144-5, 154, 199, 204-5, 315, 658-9.

³⁹Sabine, *op. cit.*, p. 502.

⁴⁰For examples of large landholders, see Ontario Archives, *Report*, pp. 89-91, 232-3, 474-6; for typical small landholders, see, *ibid.*, pp. 28-9.

Some Loyalists came to Canada and the Maritime Provinces for no other reason than to live under the Union Jack. Many more came, especially to Upper Canada, to better their economic position through the acquisition of free or cheap land. But the majority came because they had, for whatever reason, joined the Tory forces; in so doing they burnt their bridges behind them, placed themselves in an impossible social and economic position from which migration was the only exit.

THE KING AND THE CROWN

A. R. M. LOWER

WHEN King George VI spoke to his subjects on the occasion of his coronation he showed how aware he was that the office of king was something beyond and above himself, something greater than himself and of which he had only temporary occupancy:

" . . . By the grace of God and by the will of the free peoples of the British commonwealth, I have assumed the crown. In me, as your king, is vested for a time the duty of maintaining its honour and integrity . . . "

In so doing he unconsciously expressed a principle, the distinction between the office and its holder, between the state and the person at the head of the state, whose inability to get itself recognized in law and theory has resulted in most of the confusion in the English constitution, its complex oddities, the spirit of solemn make-believe which inspires it, its empiricism and *ad hoc* devices, the perpetual attempts to impose logical order and precision of one kind upon a logical structure of an exactly opposite kind.

When the king dies, we immediately say "Long live the king." The lawyers say "the king never dies", that not for the merest fraction of a second is the throne vacant. In other words, we all recognize that beyond the human being who occupies the throne and beyond the other human being who is to succeed him, there is a mysterious something, of which they are both symbols, and which flies from one to the other of them with the speed of light. We call this something "the office of king", "the kingship", more commonly "the crown".

What is meant by these words? A complete answer to the question, if a complete answer could be given, would require much more space than the limits of a short paper. The aim of this essay is therefore limited. It merely attempts to present

some aspects of the problem involved in the conception of the English kingship by looking at it chiefly in its formative period, the Middle Ages, and to indicate how some of the ideas then elaborated continue to influence the present constitution.

Many easily discernible elements enter into the modern kingship. Kings in the first place were no doubt regarded as descendants of Wodin, semi-divinities. Then the system of war-leaders common to the Germanic tribes,¹ leaders who were chosen by the body of the warriors for each separate expedition, gave rise to what we call "election", some rough kind of semi-popular choice. When in the modern coronation ceremony the Archbishop calls out "Good people will you have So-and-So for your king" and "the people of England" assembled in Westminster Abbey call out "aye! aye!", the ancient ceremony of election is being re-enacted. Somewhat later, the church introduced the ceremony of coronation. If no one could really be considered king until an officer of the church had endowed him with a special character by the symbolical act of placing a crown upon his head, then obviously the church would have secured a position of special importance for itself, interposing between the man and the office. It was for this reason that various continental monarchs from time to time refused to allow anyone but themselves to place the crown upon their heads.² The church also hoped to impress upon the rude chieftains of barbaric days a sense of responsibility for their office, such as a solemn ceremony and the blessing of God would tend to produce. Eventually the solemnity of the rite tended to confer upon the king, in unconscious substitution for his descent from a pagan deity, a semi-sacred character, evidence of which was his being regarded as in some sense a priest: "*Rex est mixta persona cum sacerdote.*"³

As the Germanic tribes in England gradually fought their way through centuries of petty divisions into something crudely resembling unity, the kingship grew in dignity along with the

¹As referred to in Tacitus, *Germania*, c. 7.

²Napoleon being the most recent and notorious example.

³*Tractatus Eboracensis IV, Libelli de Lite*, III, p. 675.

area over which it extended. Such kings as Alfred became what we would nowadays call "national figures". By the end of the Anglo-Saxon period some dim idea of the English nation or the English people had emerged and the king in an equally dim sense was the national ruler, the descendant of Wodin, the choice of the Witan and the anointed of God. After the Norman conquest, another conception came in. As the law of feudalism developed under William the Conqueror and his successors, the principle of primogeniture secured recognition and eventually came to have a prominence and a sanction which it certainly did not possess in Anglo-Saxon England. This principle, too, passed into the kingship. In France three centuries of unbroken succession from father to son⁴ riveted the principle on the French monarchy to the exclusion of almost every other ground of succession, but in England broken successions prevented it from becoming dominant. Nevertheless, from Henry II, 1154-89, on, there was a strong presumption that "the rightful" king was the nearest direct male descendant of the late monarch. This presumption, however, was never turned into a legal right, and primogeniture, like election and coronation, continued to constitute only one among other claims to the kingship.

The peculiarity of the English kingship has been that in all its many changes of succession, regular and irregular, the exact legal grounds of possession have never been made clear. Thus Henry II succeeded Stephen as the result of a bargain. Henry VII had virtually no claim except his victory at Bosworth and William III stepped into the vacant shoes of James II, who was deemed to have abdicated. The Act of Succession, 1701, while tacitly assuming that Parliament could regulate the succession as it wished, had nothing more to proclaim than that the crown should descend to such and such persons in a given order. The king is king today by virtue of an act of parliament, a dogmatic statement of fact which carefully avoids all theoretical fundamentals.

Since there has never been a definition of the title to kingship,

⁴From Hugh Capet, 987-996, to Philip the Fair, 1285-1314.

still less a definition of kingship, it is the hardest office in the world to describe. The theoretical bases on which it rests, as touched on above, are vague and indeterminate, its practical powers are as little defined as its theoretic, and the occupant of the office finds out the limits of his powers when he encounters them, not before.⁵ Every major problem is settled by empirical methods, precedents have only temporary validity and what appears strong and fixed today may become archaic tomorrow.⁶ In other words, there is only one definite and fixed property which may confidently be asserted of the English kingship: like that of deity—existence.

The resulting constitutional cloudiness—in fundamentals, if not in day-to-day issues—may be compared with the clarity of written constitutions. In the United States a precise theory of the state is embodied in a document, fundamental law is laid down, the form of government, the limitations of the powers of the various branches and their relationships to each other, are all carefully defined. In form the constitution of the United States is built upon a solid theoretical rock, that of England upon the shifting sand of *ad hoc* inventiveness.⁷

The obvious explanation of the lack of a theoretical base for the English constitution, but one which begs the question, is its antiquity. The constitution of pre-Revolutionary France was equally ancient, but by the seventeenth century French lawyers had succeeded in forming out of the chaotic feudalism of early centuries a symmetrical edifice. "*L'état c'est moi*", was its expression. The French monarchy had much the same kind of origins as the English, but the one ended by assuming the logical shape of a theoretical absolutism while the other continues in the same illogical swamp in which it has been for centuries. Further explanation must therefore be sought.

It is often said that the English have a genius for compromise. That may be because they live in a climate where

⁵E.g., the king's veto.

⁶The abdication of Edward VIII is an apposite illustration of this.

⁷The relative utility of the two, their flexibility, stability and powers of endurance, are not here under discussion, this paper being concerned solely with form and theory.

nothing stands out sharp and clear, where all the whites tend to become greys, or it may be because a fairly homogeneous people have been bottled up together in one small island for centuries and have succeeded in proving to themselves that it is impossible for one element in their society to succeed in mastering all the others. The English king and the English baronage battled for approximately four centuries without the victor being decided and when the ancient line of kings and the ancient baronage had destroyed each other and a new dynasty confronted a new people, the indecisive battle began over again. Within the last two centuries, hostilities have been suspended and give and take prevails. Under such circumstances the erection of a logical constitutional edifice was impossible. Whatever resulted was sure to be "a thing of shreds and patches".

For the historical state, such as France or England, founded in the dark ages and carrying along with it all the debris of a remote past, the only alternatives were a theoretical absolutism based on the historic monarchy, or an illogical compromise. When such states began, and for centuries thereafter, there was no possibility of erecting the neat constitutional structure which modern thought and modern forces permitted to the United States. The turbulence, the lack of communication, the illiteracy of the Middle Ages, the economic dependence of the mass of the people, the lack of large towns and the absence of political consciousness, save in the few, placed an inevitable emphasis upon the individual, so that all rule tended to become personal rule. "The medieval theory of the state had no instrument enabling it to put into legal terms the organic nature of the state."⁸ Maitland's dictum was to the effect that the medieval alternative was absolutism or anarchy. France, through a variety of circumstances, took the logical road and put all its trust in a person. England, through an equally complicated variety of circumstances, left the person in his place upon the throne but after centuries of experiment eventually

⁸Gierke, Otto: *Political Theories of the Middle Ages* (tr. Maitland), 1927 ed., p. 68.

put so many hindrances in his path of action that something new under the sun developed, the "limited monarchy", a concept incomprehensible except to the initiate, but whose value to the modern world has been amply proved.

Attempts to limit the power of the king form the central theme of English medieval history. The severe centralizing measures of Henry II prevented any possibility of individual barons setting up semi-independent states for themselves. The result was that the barons turned into the baronage, took on a corporative character and began to attempt to wrest privileges from the king, not as individuals but as a class. Magna Carta (1215), the Provisions of Oxford (1258), Simon de Montfort's regime (1264-65), the Lords Ordainers (1311) and the Lords Appellant (1387) mark the course of this struggle. While its motivation was pure class-selfishness and while it never succeeded in imposing upon the king a constitution in the modern sense, its actions did result in the growth of the conviction in England that there were things that the monarch must not do, that there were prescribed ways in which he must act and that government was not a matter of naked will,⁹ but included an element of consent.

The king with his title resting on the grounds already described, with his great wealth, his wide lands, his crowds of retainers, his possession of the courts and especially of the administrative machinery, was without challenge the first figure in the land. The kingdom was his kingdom. But his subjects had their rights, too. How could they be asserted against the king? Promises forced from him, such as the Magna Carta, had the strength of paper and of the degree of baronial unity that existed at the given moment. Committees for his guidance, such as those set up under the Provisions of Oxford, existed only so long as he was weak enough to have to put up with them. The issue of issues, until the collapse of the whole system as a result of the Wars of the Roses, was the problem of how to bind the unbindable, to restrain the unrestrainable.

⁹See charge against Richard II, note 25 *infra*.

The old fable of the rats who wished to bell the cat is an apposite analogy.

If political consciousness had been wide-spread and if there had been on hand a sufficient supply of modern experts in political theory, instead of the numerous attempts at specific limitation of the royal power by the capture of the control of the royal machinery of government or by the extortion of promises, coupled with the almost entire absence of attempts to establish general principles and a theory of sovereignty,¹⁰ a nicely ordered constitution could have been drawn up. The concept of the state could have been entertained, a "head of state" decided upon, and an appropriate "frame of government" invented. Under the circumstances, that was impossible, but the Middle Ages nevertheless abounded in subtle and acute minds which readily moved into positions advanced far beyond the concept of government by personal will.

Virtually all these ideas gather round or emerge from the distinction that may be drawn between the office and its holder. If the two are identical, there is no problem and the theoretical absolutism emerges, as in France. If they are not, the office may be built up into a constitutional abstraction of the widest sort, while the holder remains a human being. This is what has happened in England; the king has gone one way and the crown another and when the king comes into collision with the crown, so much the worse for him, as Edward VIII discovered. The *crown*, in other words, has become virtually identical with the *state*. But it is the peculiarity of English development that the distinction has never obtained the slightest recognition in law. In the strict letter of the law, the living person and the abstraction are identical.

The inconveniences caused by the refusal to admit the existence of a *state* are innumerable: they give rise to most of

¹⁰There could of course be no clear idea of sovereignty—the centre of power, unlimited and irresponsible power, power *per se*—in an age in which everyone was linked to everyone else by contract, as in feudal times. But for a case of dim perception of sovereignty, expressed in the fifteenth Century, see T. F. Plucknett's essay, "The Lancastrian Constitution", in *Tudor Studies*, ed. R. W. Seton-Watson, 1924.

those whimsical shifts so marked in English law. "As full of fictions as is English law," is an old saying which illustrates the point. So difficult has it proved to do without the abstraction that the lawyers for centuries have been furtively trying to fashion the flesh and blood of the living occupant of the throne into the precise set form of the abstraction. "The crown is a perpetual ward under the custody of the king." "The king can do no wrong", that is, the king as the head of the state must stand for abstract justice and must represent the unlimited amoral power of the state. Or, as the fifteenth century lawyers characteristically put it, refusing according to the genius of their profession to admit an abstraction, but with their noses to the ground grubbing up a practical rule which nevertheless contained within it an abstraction, "*le roi ne poet esse dit que fist tort*", there being certain things he could not do, as, if he were wrong, the subject would have no remedy.¹¹

The climax of the anomalies has been reached in the expansion of the Empire, where the growth of self-governing communities has forced a certain reluctant and indirect admission of the concept of *the state*. "Canada shall be liable for the Debts and Liabilities of each Province existing at the Union."¹² "These are courageous words," says Maitland, the language of statesmanship. The word "Canada" may provide the recognition in law of the sedulously avoided abstraction. Then comes the lawyer and insists that "in construing these enactments . . . wherever public land . . . is described as 'the property of' . . . the Dominion, these expressions merely import that the right . . . has been appropriated to the Dominion . . . the land itself being vested in the Crown". Further than this the English-speaking world has not yet advanced: the indivisible king still exercises royal power over stretches of territory which popular opinion, international recognition and political action united in regarding as virtually sovereign *states* but which the law of the constitution still insists on viewing as

¹¹Holdsworth, W. S.: *A History of English Law*, III, p. 765.

¹²B.N.A. Act, 1867, S. 111.

mere convenient administrative divisions of the realm of the human being who happens to be king.

All practical difficulties could probably have been avoided had the Middle Ages been capable of adopting and developing that doctrine which they were quite capable of enunciating, the so-called doctrine of capacities, embodying the distinction between the office and its occupant. Both in the sphere of private and of public law it was known, but its consequences were too revolutionary, and after its striking failure in the reign of Edward II, 1307-1327, it became, in the words of Francis Bacon, "a damnable and damned doctrine", never formally raised again.

An instance of its employment by the king himself in an ordinary law-suit comes down from the reign of Edward I. A certain grant of land had been made by him when heir to the throne and this he attempted to revoke on becoming king. His argument was that "*est alterius condicionis quam prius fuit et quasi altera persona.*"¹³

In public matters, this doctrine received its most formal and complete enunciation from the younger Despenser on the occasion of the forcing of the Ordinances on Edward II in 1311. In translation Despenser's statement reads:

"Homage and oath of allegiance is more by reason of the crown than by the reason of the king's person and is more bound to the crown than to the person and this appears in that before the estate of the crown hath descended no allegiance is due to the person, wherefore if the king by chance be not guided by reason, in right of the crown, his lieges are bound by oath made to the crown to guide the king and the estate of the crown back again by reason, and otherwise the oath would not be kept. The question now arises how one ought to guide the king whether by suit of law or by constraint: by suit of law one cannot have redress because he will have no judges but the king's in which case if the king's will be not according to reason he will have nothing but error maintained, wherefore it behoveth in order to save the oath that when the king will not

¹³Tout, T. F.: *Chapters in the Administrative History of Medieval England*, II, p. 60.

redress the matter or remove that which is evil and damaging for the people at large and for the crown, it is to be adjudged that the matters shall be removed by harsh measures for he is bound by oath to govern his people and his lieges, and his lieges are bound to govern in his aid and in his default."¹⁴

Here was the position clearly put: the person was merely the living symbol of something greater than himself, an abstraction to which allegiance alone was due. The *crown* to the formula-tor evidently represented something like "the whole community of the realm", in other words *the state*.¹⁵ Despenser's doctrine was a complete assault upon the king's position,¹⁶ his ideas exactly those of the Long Parliament.¹⁷ But it was in advance of its time, and later on when Despenser himself had become a royal favourite and was being harried by the baronial opposition, so vigorously was it condemned as treasonable, as enabling war to be levied against the king to defend the crown, that it was never revived and the personal king lived on, uneasily yoked to the abstract crown.

Yet it continued to prove exceedingly difficult, even for monarchs themselves, to keep the two exactly coincident and from various directions there gradually appeared usages, institutions and ideas which tended to force them apart. That this did not occur was owing only to the determination of successive monarchs not to share power, except as of grace, and the ingenuity of the lawyers, who generation after generation continued to shore up the original faulty foundation with a pile here, a joist there and a new piece of stonework somewhere else.¹⁸

The medieval kingship itself threw off various appendages which tended to become living independent growths. Thus

¹⁴Translated in Davies, J. C.: *Baronial Opposition to Edward II*, 1918, p. 24. Original, in Norman French, is in *Statutes-at-large*, Vol. I, p. 182.

¹⁵Medieval references to the *realm* (*royaulme*), *community of the realm*, *people of England* (*le poeple d'engleterre*), even *la nacion d'engleterre*, are common, but their import as a rule is obscure.

¹⁶Davies, *op. cit.*, p. 25.

¹⁷Figgis, J. N.: *Divine Right of Kings*.

¹⁸It has been said that "No one can excel the English legal mind in the skill with which it can sew a piece of new cloth into an old garment."

the great Officers of State, such as the Chancellor, at first merely personal servants of the king, through usage and the increasing business of their offices, became removed from the king's immediate will. The Chancellor with his custody of the Great Seal could intervene between the king and the expression of his will by refusing to affix the seal. "Whoever has the Great Seal in his pocket has the king in his pocket", it has sometimes been said. But in an age when tradition and usage had not destroyed flexibility, the king could always recapture his liberty either by elevating the offending office to a position of empty dignity, by dismissing its occupant, or in the case of the Chancellor, by creating other seals which other and minor officials nearer his person could affix. In this way the great departments of state were struck out, and the elaborate system of seals for expressing the king's will: the great seal, the privy seal, the secret seal, the signet, and so on. There was a constant alternation between the king's loss of the immediate, personal, even verbal, expression of his will through the formalizing of his administrative system and his regaining it by the creation of new machinery closer to himself. In the end, offices and seals proved phantoms and the king's liberty could not be curtailed by them.¹⁹

Kings themselves appeared tacitly to accept the doctrine in their references to that mysterious something which they possessed and which set them off from other men. No one was more aware of it than was Richard II (1377-99). The poet makes him say that not all the water in the rough rude sea can wash the balm from off the head of an anointed king and the sentiment is probably historically accurate. "Coment del doun de Dieu il est par lyne et droit de heritage Roy et Enheriter d'Engleterre et voet avoir le Regalie et Libertee de sa Corone . . ." "Fait a remember q le Roi en plein Parlement . . . fist overte Protestation, par sa bouche demesne, qe pur riens q'estoit fait en le dit Parlement il ne verroit q prejudice avendroit a luy ne a sa Corone; einz q sa Prerogatif et les

¹⁹For the seals and administrative system, see Davies, *op. cit.*, Tout, *op. cit.*, and Treharne, R. F.: *Baronial Plan of Reform 1258-1263*, Manchester Univ. Press, 1932).

liberties de sa dite Corone feussent sauvez et gardez." "Certains diverses matiers, desqueles il sembla a Roy q'acunes feurent encontre sa Regalie et Estate et sa Royale Libertee."²⁰ What did the king mean by these words *regalie*, *libertee de sa corone*, *prerogatif*, etc.? It surely was something outside himself, something greater than himself, even if indefeasibly his own.

Somewhat the same range of ideas comes out in his deposition, in that of Edward II and in the abdication of Edward VIII. All three are similar except that while the abdication was in a sense voluntary, both depositions in the last resort were based on force. All three were carried out according to strict legal form and a leading element in each was the necessity felt of securing the king's assent. In other words, the assent of the crown had to be secured for the king's removal. The sovereign power which ruled the country was in some mysterious way locked up in the person of the temporary monarch. . . .

The formal act of renunciation is in both medieval depositions connected with allegiance, Edward's subjects renouncing theirs through a spokesman—"Immo te reputant and tenant amodo *personam privatam* ab omnia regia dignitati"²¹—and Richard releasing his subjects from theirs. Edward II "cessit officio regali, et omni jure regio sibi competente . . . abrenunciavit et a regni regimine se dimisit".²² By the end of the century the lawyers had become more expert and had found a number of other things that the king could put off, consequently Richard II was forced to renounce "regie dignitati ac magestati et corone, dominio, potestati, aliisque dominiis et possessionibus meis seu michi competentibus quocumque nomini cenceantur infra Regna et Dominia p'd'c'a' vel alibi constitutis, regimini, gubernationi, nomine et honori, ac regalie et celsitudini regiis. . . ."²³ The list furnishes an analysis of the attributes of kingship as they appeared to the people in the year 1399.

²⁰The quotations are from the Rolls of Parliament, Vol. III, pp. 115, 224, 339.

²¹Rolls Series, *Vita et Mors Edwardi Secundi*, Edwardian Chronicles, Vol. II, p. 90, William Trussell's Declaration of Renunciation in the name of the Commons.

²²*Op cit.*, p. 90.

²³Rolls of Parliament, III, 417.

But while these attributes could be thus specified do they when added together equal "the crown"? Do royal dignity and magistracy, dominion and power, lordships, government, the name and honour, the regalia and blessed state of kingship total up to what would be called to-day "sovereignty"? Do they identify their possessor with the *state* and when he is shorn of them are they the *state*? There is no suggestion that such is the case. Perhaps all that the depositions—or ordinary successions—reveal is that the Middle Ages must have perceived that some sort of ball was being tossed about which was not a corporeal part of the persons from and to whom it was going. In an age which did not theorize on such matters, the exact size, shape and colour of the ball were not carefully noted.²⁴

At any rate Henry IV, a collateral relative, succeeded the deposed heir of all the Edwards, the problem unsolved. The king was still king, with royal rights and prerogative and all the paraphernalia of government as firmly locked up in his human person as before. Even though Richard had been deposed because he had tried for a theoretical absolutism by way of such statements as that the laws of England were in his own breast,²⁵ and even though it was quite apparent from the wording of the charges against him that the period could get fairly close to the abstraction we call the state (*leges et consuetudines regni*), no attempt was made to put into any formal legal instrument the ideas that were used to justify the act. The human person and the crown were still the same. Treason continued to be a crime against the king, not the betrayal of the state, for there was no state to betray.

²⁴There is virtually no abstract theorizing upon constitutional subjects coming down from the Middle Ages. John of Salisbury's speculations probably referred to the classical empire. Bracton was severely legal. Sir John Fortescue in the fifteenth century stands almost alone as a medieval constitutional theorist.

²⁵"Item, idem Rex nolens justas Leges et Consuetudines Regni sui servare seu protegere, set secundum sue arbitrium Voluntatis facere quicquid desiderii ejus occurrerit . . . dixit expresse . . . quod leges suae erant in ore suo, et aliquoties in pectore suo: et quod ipse solus posset mutare et condere Leges Regni sui . . ."—Charges brought against Richard II, R.P. III, p. 418 ff.

Yet there was, as it were, an embryo state, an institutional growth that was shooting up between the king and his crown, demanding recognition of and for itself and not as a mere emanation of the king's will, gradually establishing itself as part of the traditional apparatus of the kingdom. If the king were but one of several aspects of power, obviously the conception of abstract power was not far off. While this conception never has found a place in English constitutional law, it has required all the ingenuity of the lawyers to keep it out and to graft the growing institutional shoots of quite another species on to the central trunk of the human king.

This institutional growth had two main branches, the law and Parliament.²⁸ English law is a product of immemorial usage and of the English version of feudalism. Feudalism was a tissue of rights, privileges and liberties, all knit together in the web of custom, but resting on the unstable sanction of an explosive baronage ready to assert its claims in the anarchy of private war. It is the especial merit of Henry II that he managed to substitute for the chronic anarchy of continental feudalism the legal feudalism which has ever since dominated English life and which expressed itself in his characteristic institutions, such as the itinerant justices, the jury and above all the common law. By the end of his reign the right of remedy of grievances by self-help had virtually disappeared and it had become recognized that the "law of the land" covered every eventuality.

But did the law constrain the king, or was the law the king's law? Such documents as Magna Carta seem to indicate that there was a body of received custom that no amount of royal control of legal machinery could abrogate and to which the king himself must conform. The right of rebellion incorporated in the original charter seems to indicate the right to constrain the king to obey the law. Despenser's doctrine that the king must rule "according to reason", in essence amounted to the same thing—the king must rule "according to reason",

²⁸A minor and feebler branch, the administration, has been discussed above, p. 132.

or "justly", or "according to the Law". Within a century and a quarter after Magna Carta the principle of constraining an erring king to obey the law seems to have been established, though the method of constraint had got little beyond the crude right of rebellion. Consequently, since there was no means short of armed force to prevent him, the king actually could and often did break the law with impunity. But breaking was not abrogation. The mastering hand was always there, and every year it imperceptibly strengthened.

The Great Charter was a landmark, though it was many years before the implications in that grant were clearly seen. Bracton, the great thirteenth-century commentator, gave support: "Nihil enim aliud potest rex in terris . . . nisi id solum quod de jure potest".²⁷ There are various cases from the reign of Henry III establishing the rule that disseisin by the king does not deprive the disseisee of his rights.²⁸ "From a study of the original documents of the time, we derive an impression of a legality, real or pretended, pervading the whole system of relations between the king and his subjects."²⁹ Such an impression is given by incidents such as the instructions of Edward III to his judges in 1343 that "they should not on account of any letters or other orders which might come to them from the king, omit to do right", and by the decision in 1359 on the St. Alban's Charter. The charter which had been granted by Henry III, was annulled, the king's attorney arguing that it had been made against the law and this the king could not do.³⁰ Richard II was deposed for the alleged reason that he wished to put aside the law of the land and rule by personal will. Legalism to begin with might have been merely the king's method of constraining unruly barons but it was a dangerous weapon, for eventually it came to control the master as well as the man. Thus from an early period the human king had a check upon

²⁷Bracton, Folio 107a.

²⁸Many cited in Ehrlich, L.: *Proceedings against the Crown*, Oxford, 1921, pp. 15 ff.

²⁹Ehrlich, *op. cit.*, p. 12, referring to period 1216-1377.

³⁰"In perturbacionem juris et legis quod rex facere non potuit, facta erat."

his will, a rival in authority:—the abstract arbiter of men's destinies known as *the law*.

This rivalry in sovereignty, like the title to the kingship, was never in so many words decided. The burning question before the Parliamentary opposition to Charles I—was *rex lex* or was *lex rex*, in other words, were the laws of England in the king's breast?—was decided *ad interim* by the execution of the king. When his son returned in 1660 the question was begged, as it was in 1688. With Parliamentary supremacy firmly established in deed, if not in word, it did not need to be answered, for Parliament had emerged as the real sovereign power and the law emanated naturally from that body. But the effect was for fundamental law, such as Magna Carta had in effect been, to disappear from the English system and for the fate of Englishmen to become dependent on the latest statute. Thus the laws and customs of the realm are no longer those usages which have come down from remote antiquity and which are sacrosanct in character (though many of them drag on because they have not been abolished) but acts of parliament made from day to day which may conserve but which might revolutionize.

In America, where the original colonies branched off from the parent stem before the supremacy of Parliament was established, things have gone differently. The Constitution of the United States, based on ideas prevalent before 1688, is the precise American equivalent of the vague English *crown*, just as the President as the chief executive is the equivalent of the English chief executive, the king. The Constitution is the supreme law of the land. It is fundamental law and the rights it and its amendments grant to the citizen are fundamental and inalienable rights, only to be abrogated by a method of change which is also part of the fundamental law, against which rock acts of Congress may and often do shiver.

The second great institutional rival to the king, Parliament, was of later origin than the common law but eventually even more effective. "The Crown is the core out of which all the

rest of Parliament has grown."¹ A commentary on this sentence would involve a history of Parliament but it may be said in brief that Parliament, unlike the administrative system was never a mere emanation of the king's will. From the earliest times the king had his companions (*comites* or earls) from whom he got advice and military assistance. As his wants widened, the circle to which he would appeal for satisfying them also widened and gradually nearly all the classes and communities of England appeared in Parliament. Whether Parliament was primarily for counsel, for judgment, for tax-granting or for legislation remains an open question, but for our present purpose it is the fact of its continuous existence that is of importance. For as time went on, the force of circumstances increased its power. Little by little it extended the areas in which it took an interest, bit by bit it nibbled at the sphere of government. Year after year it persuaded or bribed the monarch into making fresh promises, giving it new rights, and though he never felt under any necessity of keeping his promises, they had been made and precedents had been established. Eventually when a line of kings succeeded whose title was dubious, Parliament was given prominence, so that the Lancastrian period has often been considered one of genuine Parliamentary government. No fallacy could be greater, for while Parliament throughout the fourteenth and fifteenth centuries steadily approached its modern form and its modern formalities, its real power was only a shadow of its ostensible power. It was an automaton whose strings were pulled by the great men of the realm and who chose to gain their ends through it with the show of legality that it conferred rather than by direct action.

This in itself is significant. Parliament might be a shadow but it was as real a part of the nation as is a man's shadow part of the man. By the end of the fourteenth century even the king himself set it aside at his peril.² Throughout the long

¹Pollard, A. F.: *Evolution of Parliament*, London, 1920, p. 261.

²Richard II's action of 1398 in constituting a committee of Parliament to act on its behalf was made into the first item of the indictment brought against him.

turmoil of the fifteenth century and the popular dictatorship of the Tudors it survived and when the area of political consciousness had sufficiently widened, it challenged and defeated the king himself. The execution of one king and the exile of another sufficed to establish it as the supreme power in the land, and the coping stone was thus set to the great edifice of the limited monarchy.

Yet all this was accomplished without the slightest alteration in the legal concept. After 1688, as before, the human king was still identified with the abstract crown, the laws were his laws, the administrative system his system, the citizens his subjects. Ministers were his ministers, the army and navy his army and navy. He could declare war, make peace and alienate English territory. He could accept or reject a bill and dissolve Parliament, apparently just as if the "Bloodless Revolution" had never occurred. Dignity, majesty and servility surrounded him all the days of his reign.³³ Yet as outward respect grew real power shrank. "The ideal king could do all things . . . the exaltation of the ideal king was the exaltation of the law that stood behind him, of the strength and majesty of the state which he impersonated."³⁴ As sovereignty slipped away from its grasp, royalty, the emblem of sovereignty, "became in theory more absolute as in practice it was limited more and more by the national will".³⁵ The quotation originally written of the medieval king might well be applied to the monarchy of today. Richard II "attempted to put life into the splendid phantom" and lost his throne. Edward VIII acted in much the same way and with the same result.

There once arose a king, Henry VIII, who did put life into the "splendid phantom". His lawyers, like those of the king of France, busied themselves with attempting to fit a live ghost into the English mystery play. "Instead of assigning the royal prerogatives to a natural man, as had their medieval predecessors,

³³A common eighteenth century phrase in privately requesting that a communication be put before the appropriate minister was:—"I pray you lay me at the foot of the throne."

³⁴Stubbs, Wm.: *Constitutional History of England*, Par. 158.

³⁵*Ibid.*, Par. 463.

they personified the kingly office. They said that he was a corporation sole, immortal, omni-present, infallible" and yet a natural man.³⁶ He was only prevented from being made into absolutism personified because the Parliamentary lawyers of the seventeenth century went back to the medieval conception of a natural man, subject to the law. The tendency since then has been to pay lip service to the doctrines and in practice to look on the king as a natural man. Many statutes have in consequence been necessary to prevent the natural consequences of a natural person.³⁷ Demise of the crown, for example, has always tended to stop the wheels of state.³⁸

The king, Maitland says, by the ingenuity of the lawyers has been "personified", made into a corporation sole and in that form made to do duty for the modern state. It is "a half-hearted British conception"³⁹ and the anomalies resulting are many. But in the end, as in the beginning, king and crown remain one and indivisible and the English legal mind steadfastly resisting the temptations of an abstraction, continues to pile new props under the ancient building. King, crown, kingdom, state—could legal subtlety ever rise to greater heights of mystification than in the play which it has made for centuries with these words?

From a practical standpoint the arrangement has distinct utility. The loyalties of the average man are personal rather than institutional: the American reveres the Constitution, but lacking a personal embodiment of the state he reserves much of his emotion for the flag: the Britisher not only has the flag, but also the human being, the king, whom he can see and hear and whose trappings of gorgeous clothes, parades, pomp and display provide just such a focus for feeling as does the ceremonial of the "visible church". The human king affords a subject for one of those important "irrational unanimities"

³⁶Holdsworth: *History of English Law*, IX, p. 4.

³⁷*Ibid.*

³⁸Thus until about a century ago Parliament ceased to exist on the death of the king.

³⁹Maitland, F. W.: *Collected Papers*, III, "The Crown as Corporation."

of which social psychologists speak—a sentiment or emotion, having no necessary connection with reason, which can be shared by great masses of people.

On the other hand, the metaphysical crown can range over the whole empire and can perform a multitude of tasks that might soon end the popularity of the personal king. The crown can alienate a timber limit or a water power in the backwoods of Canada, it can severely limit the freedom of speech and action of Hindoo malcontents and it can use its administrative machine for worming out the last sad secrets of the income tax-payer wherever he be. "The king is present in all his courts." Like the Deity the human king is presumed not to be bound by space and time. The king is cognizant of a breach of the traffic regulations in Winnipeg and of a theft of yams in Kenya. There is surely something to be said for a legal feat which can make the king ubiquitous, omniscient, immortal and yet keep him a creature of flesh and blood.

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BOLINGBROKE AND THE IRISH COLLEGE IN PARIS IN 1734

H. N. FIELDHOUSE

INCLUDED in the British Museum Additional Manuscripts 35335, is a copy of an "Intended Letter to a Friend in Paris", dated September 1734, and marked "to be inserted in one of the English Prints". It purports to be an explanation of its author's motives in having recently left France, where he had every reason to expect the favour of the French Court, and returned to England where he had incurred the bitter hostility of the Government of Sir Robert Walpole. As his reason for having taken this step, the writer of the "Letter" alleges that the French Government had connived at certain unjust and arbitrary proceedings directed against the priests of the Irish College in Paris and that these measures had been taken at the instigation of the Old Pretender. He claims that he, as a British subject who had often rendered the French Ministers signal services, had applied to them to have these injuries to the Irish priests redressed, but that the Ministers had pointedly declined his requests and had done so in such a way as to make him think it wise to leave France.

In the Museum Catalogue of Additions (1894-99) the authorship of this "Letter" is ascribed to Henry St. John, Viscount Bolingbroke, formerly Secretary of State under Queen Anne, and, since 1726, leader of the "Patriot" opposition to the Government of Sir Robert Walpole.

Three points of internal evidence would seem to suggest that this ascription is correct:

(a) The author of the "Letter" was someone who, on his own admission, "had taken so much pains to provoke Sir Robert Walpole and make him my enemy" that "my Behaviour to him had left me nothing to hope but every Thing to dread from his Resentment". This description was notoriously true of Bolingbroke.

(b) The author of the "Letter" was someone who felt that his family "in all moral probability never could have been unfortunate, had they not taken France for a Retreat". It was also someone who felt that he had a grievance against the French Government for having arbitrarily deprived him of a part of his fortune by its handling of Law's Mississippi System.¹ On both these points, the circumstances of the author of the "Letter" were in harmony with what we know of Bolingbroke's situation.

(c) More important, at four several points in the "Letter", its author refers to the signal services, both public and private, which he had rendered to France, and which he believed had given him a claim upon the gratitude of the French Government. Now quite apart from such services as Bolingbroke might have been held to have rendered indirectly to the French Court at the time of the negotiations for the Treaty of Utrecht, he was, at the very time when the "Letter" was apparently written, directly in French pay. At that time, the concern of the French Ministry was to secure that Great Britain should not intervene in the affair of the Polish Succession. In order, therefore, to embarrass the Walpole Government and distract its attention from continental affairs, the French Minister Chauvelin had entered into negotiations with Bolingbroke in the spring of 1733, and had agreed to supply him with funds which he was to apply to the electioneering expenses of the parliamentary Opposition². Now it will be noticed, that the ground upon which the author of the "Letter" says that he ventured to protest to the French Court against the measures taken against the Irish priests, was precisely that "if the British Ministry should come to hear of the part the Chevalier and his Minister had in that Affair . . . it might, perhaps, prove a Means to hasten a War, instead of that Neutrality which France seemed so much to desire from Great Britain, and really to want, in that critical juncture."

¹For the difficulty which Bolingbroke had experienced in recovering any part of his losses in the Mississippi Scheme from Law's assignees, see Grimoard (Philippe Henri, Cte. de): *Lettres historiques, politiques, philosophiques, et particulières de Henri St. John* (Paris, 1808), III, p. 148.

²Attention was first drawn to this clandestine negotiation of Bolingbroke with the French Court by Professor Vaucher in his *La Crise du Ministère Walpole en 1733-4* (Paris, 1924). The negotiation was conducted through Chavigny, French Minister Plenipotentiary in London, 1731-36. Chavigny's correspondence on the subject is to be found in the Archives du ministère des Affaires Étrangères, Correspondance politique, Angleterre, Vols. 380-390.

The author of the "Letter" then, was apparently someone who, as we now know was the case with Bolingbroke, was not merely aware of, but also actively in sympathy with, the wish of the French Ministers to keep the Walpoles from interfering in the Polish Succession War.

Furthermore, there actually was, between 1731 and 1737, a long-drawn-out quarrel between the priests of the Irish College on the one side, and the Abbé de Vaubrun and a certain John Bourk on the other.³ The quarrel arose from a dispute as to the validity of the election of provisors of the College in 1731, but it soon became involved with the further question of whether the College should continue to receive Irish priests who had already been ordained and who came to Paris for further study, or whether it should become solely a college for "clerics", i.e., for the body of Irish ecclesiastical students not yet in orders, who since 1707 had been admitted to share in the College endowments. In the course of this dispute, it was the main argument of the priests and of those Irish bishops who intervened to support them, that whereas the priests of the College, after their period of study in Paris, returned to Ireland and carried on the missions there, large numbers of the clerics, after completing some years at the College, abandoned any idea of taking orders and preferred to remain in France and join the Irish regiments in French pay. This argument is clearly the ground upon which the author of the "Letter" charges Bourk with "laying a Scheme for driving the Priests out of the College and turning it entirely into a Barrack for Recruits for the Irish Regiments in the Service of France." Now, Bolingbroke, as we have seen, was at that moment straining every nerve to persuade his friends in the English Opposition of the good faith of the French Court in the matter of the Polish War, and was particularly anxious, therefore, that the French should do nothing to offend English susceptibilities.⁴

³Doyle, Rev. P.: *The Irish College in Paris from 1578 to 1901* (Dublin, 1901). Vaubrun was the personal representative of the Archbishop of Paris among the major supervisors of the College. Bourk was a former provisor who had lost his place at the election of 1731.

⁴E.g. Aff. étr. Angl. 381 fo. 40. Chavigny to Chauvelin, 1st July, 1733. "M. de Bollingbrook prevoyant que vous ne pouvez (*continued on p. 145*)

Who more likely than he, therefore, to have protested to his French paymasters against measures in favour of the Irish clerics which might readily be interpreted in London as a French connivance in a Jacobite manoeuvre?

Unfortunately, there remains the apparently insuperable objection that the author of the "Letter", by his own account left France for England at some time between mid-July and September 1734, whereas, apart from a brief visit to continental watering places in 1729, Bolingbroke was in England continuously from 1725 until June of 1735. Moreover, from May, 1733, until February, 1735 he was in the closest touch with Chavigny, and the latter's reports to Chauvelin establish beyond possibility of doubt the fact that Bolingbroke was in England at the time when the events described in the "Letter" took place. On the other hand, the same reports show that Bolingbroke's French wife visited France in June, 1734 and that while her visit was ostensibly concerned with her family interests, Chavigny believed that she would be able to give Chauvelin useful information upon the position of English affairs.⁵

If the "Letter" was not written by Bolingbroke, by whom was it written? Its author claims that the French authorities had refused his application for a passport on July 14th, 1734. Unfortunately, no record of any such application can now be found. It was not until the nineteenth century that the police authorities in France began to issue regular passports. Travelers in the eighteenth century used safe-conducts delivered by the Minister of Foreign Affairs, and neither in the Archives du ministère des Affaires Étrangères, nor in the Archives Nationales has it been found possible to trace any request from a

⁵Aff. écr. Angl. 386, fo. 262, and 390, fo. 265. Chavigny to Chauvelin, 10th June, 1734, and 28th February, 1735.

prendre aucun parti qui ne soit précédé d'une déclaration pour annoncer à toute l'Europe le plan de votre conduite, il voudroit estre consulter avant de mettre au jour une pareille déclaration. Un mot de plus ou moins n'est pas indifférent selon luy pour rendre notre conduite aux yeux des anglois plus ou moins populaires."

British subject for a safe-conduct such as would help to establish the identity of the author of the "Letter".⁸

There remains the possibility that the "Letter" was actually written by Bolingbroke, that he had actually protested *from England* to his French paymasters against measures taken with regard to the Irish College which would make his role of apologist for French policy more difficult, but that the story of his having been in France was invented to conceal his identity. It is not easy to see, however, why he should choose the vehicle of an anonymous public print in which to issue his apologia, or for whom an apologia issued in such a form could be intended.

Intended Letter to a Friend in Paris,
to be inserted in one of the English Prints.

London September 1734.

Sir

If my Friends were surprized at my leaving Paris, at a time when they thought I had such happy Prospects from the Gratitude and Generosity of the Court of France, I believe they will wonder no less at the Route I took and the Place I am in at present. To satisfy their Curiosity then, and to justify my own Conduct, I shall now give you *some* of the Reasons I had for taking such a Step w(hi)ch I thought Duty commanded, and which Honour could not possibly avoid.

As I have always had a very sincere Affection for the French Nation, and have made that Affection very useful to them upon several Occasions, you may easily believe it was no small Affair that could prevail upon me to throw up such well grounded Pretensions as I had to an Establishment in France; to sacrifice the justest Expectations of a handsome Provision for my Family; and to throw myself into the hands of a Minister, from whom my Behaviour to him had left me nothing to hope but every Thing to dread from his Resent-

⁸For assistance in the attempt to clear up this matter, I am indebted to Professor Elie Halévy and Professor Paul Vaucher, to M. M de la Roncière of the Bibliothèque Nationale, and to the authorities of the Service des Archives in the Ministère des Affaires Étrangères and of the Direction des Archives in the Archives Nationales.

ments, which before this Time, might have crushed me to Atoms, had he not been generously pleased to suspend them this Month past that he has known of my being in Town: This Generosity I shall always acknowledge with the same Gratitude that I now publish it.

You have, with the rest of the British Subjects in Paris, heard of the unprecedented and Arbitrary proceedings against the Irish College there; wherefore I shall avoid troubling you with many particulars which Charity obliges me to conceal from the Publick, tho' they would very much contribute to the justifying of my Conduct in leaving France. All I shall tell you at this Time is, that when I saw the Priests of the Irish College treated not only with Cruelty but even with a Barbarity shocking to human Nature, and that too by a mean-born worthless wretch who, meerly by Vertue of a *Letter de Cachet*, calls himself Superior of the College; when I saw Gentlemen, who 'tho' Priests, are still Subjects of Great Britain/ and under Protection of the Treaties between the two Crowns, arbitrarily threatened to be sent to Bicêtre and put to Bread and Water if they refused to obey Mr. Bourk; when I saw this Bourk, under the specious but groundless and knavish Pretence of reforming Manners, laying a Scheme for driving the Priests out of the College, and turning it entirely into a Barrack for Recruits for the Irish Regiments in the Service of France: I say, when I saw those Things going forward, and all the Arrêts of their late and present most Christian Majesties, in favour of the College, giving Place to a Letter from the Chevalier and the Sollicitations of his Minister in Paris, and set aside to continue Bourke in a place out of which he had been unanimously thrown at the last Election of Superiors, I found myself obliged to remonstrate to the Ministry that such Proceedings not only combatted but overthrew, to all Intents and Purposes, the Arguments I had made Use of in Print to perswade my Country of the Sincerity and Bonne Foy of the Court of France. Along with that Remonstrance I humbly desired that the College might be immediately redressed as a Thing which not only Justice demanded, but true

Policy and the Interest of France required; since, if the British Ministry should come to hear of the part the Chevalier and his Minister had in that Affair, and the great Regard shewn to them upon all Occasions, particularly in every Thing relating to the British Subjects, it might, perhaps, prove a Means to hasten a War, instead of that Neutrality which France seemed so much to desire from Great Britain, and really to want, in that critical Juncture.

Now, Sir, I believe that every Man who knows how zealously and how publickly I have pleaded the Cause of France, and how strenuously I have recommended her *Bonne Foy*, tho' he may still remain ignorant of those Services I have rendered her which never appeared in print, will readily conclude that I had a Right, both in Regard to my own honour and my Country, not only to make that Remonstrance but to desire a Redress for the College: But what was the Consequence?—Tho' I had made that Remonstrance and Request in the most secret Manner, and none were privy to them but the Ministers themselves to whom they were addressed, yet they were immediately communicated to Abbé Vaubrun, and by him as immediately communicated to Bourk: This was an ungenerous proceeding which I should never have come to the knowledge of, had Bourk's Moderation been equal to his Hypocrisy; but as he was bursting with Vanity to see the Court so inflexibly support his Plan, he blabbed out the whole Affair two Days after in the Refectory of the College. It is true, he condescended to conceal my Name by honouring me with the Title of an English Lord; but, at the same Time, was so particular and Circumstantial in other Respects that I was quickly guessed at to be the Person he meant: Notice was therefore sent me of it immediately, and I resolved to bid France and her Ministers Adieu.

Pursuant to the Resolution I had taken, I wrote to the Ministry, some days after, for a Pass for me and my Family to go to Liege; that I might be far enough off from my Enemies, who, I found, had too much *Credit* and *Power* for me to be safe in the French Territories, and whose Countenances boded me

no Good: But this Request was likewise denied me the 14th. of last July, by politely telling me I had no Occasion for a Pass to go to Liege. This Answer, I must own, shocked me very much; in my Heart, I accused France of Injustice and her Ministers of Ingratitude; but perhaps I injured them; for a Man may sometimes judge too partially and too favourably in his own Cause. But be that as it will, as my Services had highly deserved a much greater Favour, and as a Pass could not be fairly denied me by the Tenor of our Treaties as I was a Subject of Great Britain, I quickly understood the Language of the Refusal, and was resolved not to venture over the Frontiers without one. Very probably some People thought I had no other Road to take, since, for the same Reasons, I could no more be in Safety in Spain than in France; and imagin'd I never would venture into England, where I had taken so much Pains to provoke Sir Robert Walpole and make him my Enemy: But in this I had the Courage, and I hope the Event will shew that I had the good Sense, to undeceive them. Sir Robert's greatest Enemies, have, to my knowledge, allowed him the Vertues of good Nature and Generosity; and the Royal Clemency of our Sovereign has been conspicuously manifested upon numberless Occasions: I thought it then much more consistent with my Duty & Honour to have Recourse to them, than to continue any longer in a Place where fatal Necessity, and self preservation, would not only oblige me to silence, tho' I should see the most pernicious Designs carrying on against my Country, but perhaps constrain me to act further than my Affection to France could lawfully permit me.

Whether the Ministers of France now have or then had any such Designs is what I shall not argue about at present; the few Facts and Circumstances I have related out of many more I could urge, I hope will be found, by every honest Man, sufficient to justify my Conduct, and I have not hitherto received any Treatment to give me Cause to repent it: I have now the conscious Satisfaction, whatever may happen to me, of being in the Right once in my Life; and be that Life long or

short, it shall ever be devoted to the Service of Great Britain and the August Prince that reigns so gloriously over us.

Not to tire you with too long a Letter at present, I shall reserve some other important Things for another Opportunity; in the mean time if any Gentlemen think themselves injured by what I have said here, I shall be very glad to see them point out those Injuries in some publick paper. As to the Ministers of France I still bear them all the Respect due to their Character, and assure them, that in whatever Place or Station Providence pleases to dispose of me, I shall serve their Country with as much Cheerfulness and Sincerity as heretofore, when I am as much perswaded again of their sincerity and Bonne Foy as I have formerly been, and see them confirmed by such a Conduct as Great Britain may have no Reason to be jealous of, or provide against. In return, I hope they will give me leave to tell the World that I owe them no Money-Obligations (no, not even for a single Farthing) for all the Services I rendered them, tho' I must confess they gave me as much as I asked of them: This Declaration is necessary for the Honour of us both; but had they, while I was serving them both publickly and privately, restored back to me any part of that Fortune, which the Visa on the Mississippi System had arbitrarily plundered from me, they would have done an Act of Justice and Humanity to an unhappy Family, who, in all moral probability never could have been unfortunate, had they not taken France for a Retreat.

I am, Sir,

Your most humble and
obedient Servant

L'HUMANISME CLASSIQUE

A. BERNIER

LE BUT de cet article est de justifier le choix des études classiques, latines et grecques, comme instrument privilégié de formation intellectuelle dans l'éducation secondaire.

Contre ce programme se dresse la formidable objection de l'utilitarisme.

Nous répondons: 1. que le but immédiat de l'éducation secondaire ne doit pas être l'utilitarisme mais *l'humanisme*, 2. que l'instrument par excellence de cette formation humaniste est la culture classique, 3. que l'utile (sinon l'utilitarisme) n'y perd rien en définitive.

I. HUMANISME

Un fait bizarre à première vue: après l'école primaire, un certain nombre d'enfants, autant que possible sélectionnés, sont réunis dans des collèges où on leur enseigne quelques matières utiles à la vie, telle l'arithmétique, mais bien plus encore, et presque exclusivement, des matières parfaitement inutiles, qui le paraissent du moins, surtout le latin et le grec. Rien d'étonnant alors que nos élèves nous demandent pourquoi on leur fait étudier tant de sujets dont ils ne se serviront pas plus tard dans la vie pratique. Ils formulent ainsi leur objection: "A quoi sert le latin? A quoi sert surtout le grec?"

Ils ont bien raison certes de vouloir se rendre compte du système d'éducation qu'on leur impose, raison surtout de nous en demander compte. En cela, ils font acte d'intelligence.

Les parents—et le gros public—ont généralement cette conception de l'éducation: "Je veux avant tout que mes enfants puissent gagner leur vie par l'éducation qu'ils reçoivent. Il leur faut donc une éducation qui leur serve à gagner le plus d'argent possible."

Certes, l'objection n'est pas du tout méprisable.

Il est une notable partie du public instruit, celui qui réussit dans les affaires, et même des intellectuels, qui disent ceci :

"Nous reconnaissons que l'éducation dite classique contribue à former des esprits distingués, littérateurs, beaux diseurs, poètes, mais que, dans l'évolution actuelle du monde, une telle éducation est insuffisante pour mettre le jeune homme en état de soutenir la lutte pour la vie.

"Ce qu'il faut avant tout (sinon exclusivement) c'est une bonne formation scientifique. Après qu'on a appris sa langue à l'école primaire, et l'arithmétique—et peut-être une langue seconde, si c'est utile pour les relations commerciales—il faut ensuite, dans l'enseignement secondaire, des mathématiques et des sciences pratiques; c'est cela qui permettra aux jeunes gens de réussir dans l'industrie et le commerce. Mieux que cela: cette éducation *seule* fera l'avancement de la Science, laquelle se résout en civilisation, qui finalement donne le bonheur à la société.

"Ce n'est pas par la littérature, et surtout par le latin et le grec que la science de l'alimentation, de la construction, du confort se développera, que les médecins feront progresser la science médicale qui prolongera la vie humaine et améliorera la santé des individus pour le bonheur de l'humanité, que se régleront les graves questions financières qui angoissent tous les peuples, que les chemins de fer ouvriront les continents à la civilisation, que les navires sillonneront les mers et les avions les airs, que les ingénieurs couvriront la terre de travaux gigantesques, que les gouvernements équilibreront leurs budgets, résoudront la crise économique et feront face au communisme. A l'heure de la guerre, lorsque le sol de la patrie sera envahi, les canons ne se fondront pas, les cuirassés ne se construiront pas et les fortifications ne s'élèveront pas aux chants poétiques d'Homère et de Virgile, pas plus qu'aux accents lyriques de Pindare et d'Horace. Le problème de la vie moderne ne se dénouera pas comme et par un drame de Sophocle.

"Et surtout, continuent les savants (ou du moins les scientistes) ce n'est pas par le latin et le grec que la Science progressera dans la conquête de la Nature, laquelle, révélée à l'homme, donnera à la vie humaine son maximum de bien-être et de bonheur."

On le voit, je ne minimise pas l'objection, la grave

objection à laquelle il faut répondre victorieusement; sinon, abandonner franchement un système d'éducation périmé qui a pu avoir son utilité dans le passé mais qui ne convient plus au progrès et aux exigences de la vie moderne: non scholae sed vitae discimus.

Oui, sans doute, l'enfant et le jeune homme ont le droit de savoir où les mènent leurs éducateurs, vers quel avenir les oriente ce système d'éducation; et les parents, qui ont le souci de la carrière de leurs enfants, qui connaissent par expérience l'âpreté de la lutte pour la vie, ont raison d'exiger une réponse satisfaisante à cette question: votre éducation classique rendra-t-elle nos fils capables de gagner convenablement leur vie et même d'y prospérer?

Et les savants, les penseurs, ont certes raison de dire que la Science, la conquête de la Nature a plus d'importance pour le bonheur de l'humanité que de savoir traduire et goûter Cicéron ou Démosthène, Horace ou Euripide, agréable passe-temps de dilettantes, mais jeux enfantins en regard des impérieux problèmes qu'il nous faut résoudre sous peine de périr.

Aux uns et aux autres nous répondrons: votre objection est fondée sur une équivoque: *le but immédiat, direct et précis de l'éducation secondaire n'est pas l'utilitarisme mais l'humanisme*. Et pour les impatients de conclusions hâtives disons tout de suite que le système d'éducation que nous préconisons *ne méconnaît, pas les légitimes exigences de l'utilitarisme mais les met à leur juste place*, la seconde. Le classicisme n'est pas non plus opposé au scientisme, mais le prépare en lui forgeant l'instrument: l'intelligence. Et non seulement il le prépare, mais il doit, autant que possible, l'accompagner et le dépasser d'une certaine manière, en prolongeant en lui son influence esthétique et idéaliste.

* * *

Mettons en contraste ces deux termes: utilitarisme et humanisme.

L'utilitarisme a pour fin le gain de la vie matérielle, la satisfaction des besoins corporels de l'homme, le confort, le

bien-être, les jouissances de la vie. Elle est à base de matérialisme.

L'utilitarisme trouve son expression triomphante dans la civilisation matérialiste qui a pour objet ultime la conquête de la Nature pour en faire l'instrument d'une condition de vie qui ne connaîtrait pas la souffrance et qui jouirait de tous les plaisirs et de tous les raffinements de la volupté.

Si chimérique que soit cette hypothèse, imaginons ce que serait la société humaine parvenue à l'apogée de la civilisation matérielle, mais de laquelle aurait été banni tout spiritualisme comme désuet et antiscientifique.

Elle produit en surabondance tout ce qui est nécessaire à la vie, au luxe, au plaisir. L'homme a perfectionné et maîtrisé la vaste machine industrielle, la maladie est devenue une exception anormale (non pas la mort cependant); la guerre est abolie (les passions humaines qui sont les causes de la guerre le seraient-elles également)? Toutes les forces de la Nature ont été captées—si on peut se permettre un pareil rêve.

Arrivé à cet apogée, l'homme sera-t-il pleinement satisfait et heureux?

Non, car il lui resterait la partie la plus essentielle de sa nature à satisfaire; son intelligence, son cœur, son appétit du Vrai, du Bien, du Beau, son besoin et ses rêves d'infini, son âme enfin!

Pouvez-vous imaginer ce que serait la laideur, l'horreur d'une civilisation toute matérielle? Les plaisirs de l'esprit considérés comme bien fades quand les sens sont pleinement rassasiés; l'effort intellectuel supprimé, puisqu'on en a supprimé le besoin, la science désintéressée devenue ridicule puisqu'elle ne donne pas la jouissance; l'art n'ayant plus pour objet que de caresser les sens et vidé de son rôle essentiel: l'admiration désintéressée du Beau, la pure contemplation; la charité aux oubliettes, puisque tout le monde surabonde de biens; le dévouement remplacé par un égoïsme abject, le Dieu-Etat se chargeant de pourvoir à tous les besoins; les vertus morales devenues sans objet, puisque le bien c'est l'utile; l'héroïsme une folie d'écervelé dont on n'a plus l'occasion,

heureusement; éteint l'enthousiasme puisqu'il vit d'idéalisme, de générosité, de dévouement, de don de soi, de vertus morales, de beauté; la sainteté enfin un lointain et grotesque souvenir de la barbarie moyenâgeuse!

Morts tous ces grands sentiments qui ont guidé l'humanité dans sa marche progressive, brisées ces grandes ailes dont a parlé si magnifiquement Taine à propos du christianisme, ces ailes qui soulèvent le monde au-dessus de la matière!

Ce serait la dégénérescence de toute la société, la chute verticale!

Or, ce sombre tableau est loin de n'être qu'à l'état fictif. Nous marchons à allure accélérée vers ce cauchemar.

Le docteur Alexis Carrel, une des grandes autorités scientifiques, du monde, puisqu'il est membre de l'institut Rockefeller, a publié récemment un livre que tous les intellectuels connaissent: *L'Homme, cet inconnu*. Il y constate que l'homme a conquis une prospérité inouïe; que, de nos jours, le moindre bourgeois d'une petite ville a plus de confort que Louis XIV dans son Louvre; mais il conclut tragiquement que notre civilisation utilitaire a fait faillite; que, malgré ce progrès matériel, l'humanité n'est pas heureuse, mais en décadence, précisément parce que la conquête de la Nature, des biens extérieurs de l'homme, a marché plus rapidement *que le progrès de l'homme lui-même*; qu'en un mot, l'homme n'est pas fait pour la matière, mais la matière pour l'homme, tandis qu'en notre société, l'homme est asservi à la civilisation qu'il a créée. Il lui faut trouver une civilisation où prime intérêt de l'homme, le perfectionnement de l'homme, de l'homme tout entier, ce qui comporte la culture de ses plus hautes aptitudes; par conséquent, rétablir la primauté du spirituel sur la matière.

Cet homme de science, un des maîtres de l'heure, a des jugements très sévères sur cette civilisation toute matérielle et l'utilitarisme pratique qui en découle:

"L'homme est aujourd'hui incapable de suivre la civilisation dans la voie où elle est engagée, parce qu'il y dégénère."
(p. vi.)

"L'énorme avance prise par les sciences des choses inanimées sur celles des êtres vivants est un des événements les plus tragiques de l'histoire de l'humanité. Le milieu construit par notre intelligence et nos inventions n'est ajusté ni à notre taille, ni à notre forme. Il ne nous va pas. Nous sommes malheureux. Nous y dégénérons moralement et mentalement." (p. 31.)

"La primauté de la matière, l'utilitarisme, qui sont les dogmes de la religion industrielle, ont conduit à la suppression de la culture intellectuelle, de la beauté et de la morale, telles qu'elles étaient comprises par les nations chrétiennes, mères de la science moderne." (p. 149. Suivent des pages terribles qui flétrissent la civilisation contemporaine.)

"Les maladies mentales (aux E. U.) à elles seules, sont plus nombreuses que toutes les autres maladies réunies." (p. 183.)

"La possession de la richesse est tout et justifie tout. Un homme riche, quoi qu'il fasse, qu'il jette sa femme vieillie au rebut, qu'il abandonne sa mère sans secours, qu'il vole ceux qui lui ont confié leur argent, garde toujours la considération de ses amis." (p. 181.)

"La faiblesse d'esprit et la folie paraissent être la rançon que nous devons payer pour la civilisation industrielle, et les changements dans le mode de vie amenés par elle."

"La civilisation scientifique nous a fermé le monde de l'âme. Il nous reste seulement celui de la matière." (p. 211.)

"Non seulement la matérialité brutale de notre civilisation s'oppose à l'essor de l'intelligence, mais elle écrase les affectifs; les doux, les faibles, les isolés, ceux qui aiment la beauté, qui cherchent autre chose que l'argent, dont le raffinement supporte mal la vulgarité de l'existence moderne." (p. 387.)

"On dirait que la civilisation moderne est incapable de produire une élite douée à la fois d'imagination, d'intelligence et de courage. Dans presque tous les pays, il y a une diminution du calibre intellectuel et moral chez ceux qui portent la responsabilité des affaires. . . . Cette civilisation n'a pas été capable de développer des hommes assez intelligents et audacieux pour la (l'humanité) diriger sur la voie dangereuse où elle s'est engagée." (pp. 23, 24.)

Et l'auteur conclut, non pas au rejet de la civilisation matérielle, mais à la primauté sur elle de la science de l'homme lui-même. Et donc, toute saine éducation cherchera d'abord

et avant tout à former, développer et perfectionner l'homme virtuel contenu en cet enfant.

Il ressort de ce sombre tableau qu'une éducation purement utilitaire—ou dans laquelle la place prépondérante serait attribuée à l'utilitarisme—ne saurait ni donner à l'enfant et à l'homme futur la formation totale qui assurerait son bonheur, puisqu'elle négligerait l'âme; ni répondre aux besoins les plus vitaux et les plus essentiels de la société.

En regard de cet utilitarisme à base de matérialisme s'élève l'Humanisme.

L'humanisme a pour but direct le perfectionnement de l'homme. Tout homme normal porte en lui des possibilités et des appétits de grandeur, d'intelligence, de sociabilité, qui se traduisent chez les meilleurs par des aspirations à la science, à l'art, à l'héroïsme, au dévouement, à la sainteté. Ceux en qui elles dominent sont les conducteurs d'hommes, les bien-faiteurs de l'humanité. L'humanisme a pour fonction précisément d'éveiller l'enthousiasme de cette perfection humaine, d'orienter vers cet idéal humain.

La civilisation doit être l'idéal de la société, car, dit encore Carrel: "l'homme prime tout, Avec sa dégénérescence, la beauté de notre civilisation et même la grandeur de notre univers s'évanouiraient." (p. vi.) Donc, "l'homme devrait être la mesure de tout." (p. 31.) L'expression si en vogue de nos jours en science économique: Conserver et développer le capital humain, s'applique mieux encore quand il s'agit de civilisation. Progrès du commerce, de l'industrie, du bien-être, fort bien. Mais mieux encore progrès de l'humanité elle-même, développement de l'homme, perfection de l'homme.

Promouvoir l'intelligence humaine est évidemment un plus grand progrès que les inventions mécaniques destinées à promouvoir le confort ou le luxe de la vie. "La civilisation a pour but, non pas le progrès de la science et des machines, mais celui de l'homme." (Carrel, p. 279.) Le sens de la beauté est peut-être aussi efficace. C'est lui qui excite l'enthousiasme imitateur des grandes choses, lui qui stimule l'effort intellectuel, et par là, facilite le travail; lui qui éveille les facultés

en excitant le désir et la puissance créatrice par laquelle on est vraiment homme.

Enfin, "le sens moral est encore plus important que l'intelligence. Quand il disparaît d'une nation, toute la structure sociale commence à s'ébranler. . . . La beauté morale laisse un souvenir inoubliable à celui qui, même une seule fois, l'a contemplée. Elle nous touche plus que la beauté de la nature, ou celle de la science. Elle donne à celui qui la possède un pouvoir étrange, inexplicable. *Elle augmente la force de l'intelligence.* Elle établit la paix entre les hommes. Elle est . . . "la base de la civilisation." (Carrel, p. 152.) . . . "À ceux qui sont les membres anonymes des grandes nations, le sens moral est beaucoup plus important que l'intelligence." (p. 163.)

Culture de l'intelligence, de l'esprit scientifique, du sens esthétique, du courage, de l'énergie, de l'héroïsme, des vertus morales, enfin réalisation ou poursuite d'un idéal de perfection humaine, c'est tout cela, l'humanisme.

On le voit, j'adopte pour ce terme *humanisme*, le sens large, d'assez récent usage, ne le restreignant pas à la culture humaine par les lettres grecques et latines, mais à toute éducation, civilisation, et tendance *visant au perfectionnement de l'homme.*

À cet idéal humaniste correspond l'éducation humaniste.

L'éducation humaniste délaisse (ou plutôt, semble délaisser d'abord) les buts dits pratiques de la vie, et porte son effort à former l'homme lui-même en l'enfant, et dans l'homme ses plus hautes facultés: intelligence, volonté, cœur, sociabilité, dévouement, sens artistique, moral, religieux.

L'éducateur humaniste ne se dit pas tout d'abord:

"Cet enfant, il faut en faire avant tout un homme d'affaires habile, un bon calculateur, un industriel compétent," —mais: "cet enfant, comment en ferais-je un homme? un vrai homme, pas une ébauche d'homme, un enfant de cinquante ans et de six pieds et de deux cents livres comme on en voit tant, mais un être viril? Comment développer toutes ses virtualités? Mon idéal: en faire un homme intelligent qui sache trouver le Vrai, et, si possible, faire avancer la Science; un homme de volonté qui tendra fortement au bien, et, au besoin, par le chemin du sacrifice

et de l'héroïsme; un homme de dévouement à toutes les grandes causes dignes d'enflammer l'enthousiasme; un cœur compatissant à la souffrance humaine et prompt à la soulager; un admirateur de la beauté, capable de l'exprimer et de la créer; un bel exemplaire de toutes les vertus morales; enfin, bien que cet idéal soit difficile à réaliser dans un même individu, au moins autant que le comporte la nature du sujet, un savant, un artiste, un héros, un saint. Comment développerai-je en lui un élan, une passion, un enthousiasme, pour les sommets, d'où résultera un type supérieur d'humanité, un homme parfait, pleinement formé, non seulement pour lui-même, non un égoïste, mais une âme généreuse qui, sympathisant avec son temps et la société où il évolue, rayonnera sa culture pour le plus grand bien de la cité, de la patrie, de l'humanité: un homme! Vir!"

Ici l'on m'arrêtera et on me dira que c'est là un idéalisme creux et chimérique auquel un tel humanisme sacrifiera la première des réalités: celle pour l'enfant d'aujourd'hui, l'homme de demain, de gagner sa vie. Disons immédiatement qu'il ne s'agit nullement, par l'éducation humaniste, de supprimer l'utile; certes, il faut mettre entre les mains du jeune homme l'instrument de sa vie matérielle, son gagne-pain; mais nous disons que cette réelle nécessité n'est ni le tout, ni le principal, ni l'idéal de l'éducation. L'idéal, en éducation comme en tout, c'est la primauté de la personne humaine, et en elle de ses plus hautes facultés, sur la matière et la machine.

D'ailleurs, si l'éducation élève le niveau intellectuel et moral de toute une classe, de toute une génération, le véritable et légitime utilitarisme aura sa part, la seconde, mais effective. Ce sera ma troisième partie.

Cet esprit humaniste doit prédominer dans toute éducation; dans l'éducation primaire elle-même, car tous les enfants ont droit au respect de leur personnalité, au développement essentiel de leurs aptitudes, à ne pas être considérés comme des machines à compter, et condamnés à vivre brutalement et basement. Qu'une âme rayonnante inspire et élève tout d'abord l'école primaire.

Mais même ceux qui n'admettent pas qu'on doive donner à l'humanisme ainsi entendu la prépondérance en éducation,

qui veulent qu'avant tout l'enfant soit dressé à faire de l'argent, même ceux-là reconnaissent qu'il faut, pour le bien de la société, pour le maintien et le progrès de la civilisation, la formation d'une élite ayant, elle du moins, pour mission, d'entretenir le feu sacré, la flamme d'idéalisme nécessaire en ce monde pour qu'il ne se matérialise pas et ne tombe dans la barbarie; une élite d'hommes supérieurs, guides, maîtres et exemples des autres moins heureusement doués. Or c'est là précisément le rôle de l'éducation secondaire et des universités. C'est à cette élite surtout que s'applique notre plaidoyer en faveur de l'humanisme.

Concluons ces considérations par ces lignes d'un vieux maître qui définit et décrit l'humanisme :

"L'humanisme est une discipline intellectuelle qui par un exercice universel et harmonieux des facultés de l'esprit, doit les développer toutes, les affiner, les assouplir. Il ne vise donc point précisément à enrichir, ou, comme on dit, à meubler l'esprit de l'adolescent d'une quantité plus ou moins considérable de connaissances positives, mais bien plutôt à le mettre en état de les acquérir, le moment venu, avec facilité, et d'y entrer plus avant. L'enseignement du collègue ne doit pas plus faire des savants que des commerçants ou des industriels: *il doit faire des esprits cultivés*. Son caractère distinctif, c'est précisément d'être *désintéressé*, c'est-à-dire, de n'avoir pas d'application immédiate dans la pratique de la vie: comme le propre de l'enseignement spécial c'est, au contraire, d'être *utilitaire*. . . . En aiguisant l'esprit, en lui ouvrant des horizons plus larges, en sollicitant la curiosité intellectuelle, en formant le goût, elles font mieux qu'instruire, elles *élèvent*, au sens le plus juste et le plus vif du mot: elles préparent des hommes capables d'habiter les hautes sphères de l'intelligence, de comprendre et d'aimer le vrai, le beau, l'idéal, et même de cultiver plus fructueusement que d'autres les branches du savoir qu'ils ont paru négliger d'abord. Partant, elles font quelque chose de meilleur, de plus fécond et finalement de plus utile que l'instruction qui s'enferme dans la cercle des connaissances utiles."

(J. Burnichon, *Etudes*.)

Enfin, le P. Charmot dit magnifiquement: "Son caractère propre (de l'humanisme) est d'épanouir toutes les virtualités humaines des disciples par un investissement de grandeur, de beauté et d'harmonie. Envelopper les âmes d'images vivantes, d'images qui déchaînent en elle de la musique; faire contempler longuement et lentement les œuvres les plus expressives; laisser leur magie s'exercer profondément sur les esprits, c'est là ce qui distingue d'abord l'enseignement secondaire. Tout l'art du Maître se ramène ici à une imprégnation de l'esprit et du cœur par l'idéal, à un éveil des forces les meilleures de notre être par les plus magnifiques secousses de la vie." (*L'humanisme*, p. 191.)

II.—L'INSTRUMENT PAR EXCELLENCE DE LA FORMATION HUMANISTE EST LA CULTURE CLASSIQUE

Avant d'aborder cette démonstration, précisons-en la portée; nous écarterons par là des équivoques troublantes.

Il s'agit avant tout de la formation intellectuelle; la formation morale n'est certes pas absente du classicisme, mais il y a d'autres moyens plus profonds et plus efficaces pour l'acquérir; en particulier la discipline entendue dans le sens d'habitudes morales inculquées à l'enfant, et les convictions religieuses.

Nous ne disons pas que la culture classique est la seule discipline intellectuelle possible pour conduire à l'humanisme, ni qu'elle suffise à elle seule; ni surtout qu'elle est l'aboutissement final de l'éducation, le but de la vie. Nous ne lui donnons certes pas la prééminence sur la science et la philosophie. Elle ne peut remplacer la haute formation intellectuelle, celle qui se donne à l'université. Il s'agit de cette culture qui a pour but de développer l'enfant ou le tout jeune homme et de le conduire progressivement à la maturité intellectuelle. Il s'agit de la culture propre à l'enseignement *secondaire* et non supérieur, celle du collège, préparatoire et introductoire à l'Université.

A l'enseignement supérieur, à l'Université appartient l'avancement de la science, la solution des grands problèmes qui sollicitent l'humanité.

L'enseignement secondaire ne fait qu'y préparer. Ne lui demandons pas davantage, ce n'est pas sa fonction.

Ne confondons pas l'éducation primaire, secondaire, supérieure; école, collège, université.

Cette distinction, pour peu qu'on veuille bien y réfléchir, fera tomber bien des objections contre le classicisme.

Cette équivoque dissipée et le rôle de l'éducation secondaire ainsi défini, en quoi consiste donc l'excellence de la culture classique pour la formation humaniste?

1. *D'abord, dans la technique des langues grecque et latine.*

J'aborde ici la partie la plus difficile de mon travail. Je serais assurément ridicule de prétendre exposer cette technique en quelques pages; il y faudrait, entre autres choses, une profusion d'exemples qui réclameraient un livre entier. De plus, cette étude ne serait intelligible qu'aux gens du métier, ou au moins à ceux qui ont reçu cette formation classique et qui y ont réussi.

Force m'est donc de condenser très brièvement cette démonstration. Je l'essaierai en quelques brèves formules, aussi claires que possible, en un sujet singulièrement subtil et abscons.

Le maître a devant lui un enfant, assez bien doué, c'est une condition préalable et nécessaire. Il a pour tâche d'en faire non pas un savant—cela est fonction de l'Université—mais *un homme intelligent*. Pour atteindre ce but, il devra lui apprendre à raisonner, à juger, à penser. Pour cela, d'abord forger *l'instrument de la pensée: le langage*.

Je ne méconnaiss pas que la pensée déborde le langage; qu'aucune langue, si expressive soit elle, ne peut reproduire toutes les richesses et les nuances de la pensée. Néanmoins, c'est bien par le langage que l'âme humaine trouve sa plus fidèle expression, le miroir le moins infidèle de ses sentiments. Plus la langue est parfaite, plus l'intelligence elle-même est arrivée au degré de clarté, d'élégance, de maturité, de puissance qui caractérise les sociétés les plus évoluées.

C'est pour cela que dans tout système d'éducation, on commence par l'étude de la langue. Apprendre à lire, c'est la clef

de la vie intellectuelle. Sur ce point il y a unanimité. Les mots avec leurs sens variés, les propositions coordonnées, subordonnées et enchaînées entre elles selon les règles de la syntaxe, les phrases avec leurs constructions logiques, le mécanisme enfin du langage, jaillissement de la pensée, est l'instrument primordial et nécessaire de la formation intellectuelle.

ICI on m'arrête et on me dit : "Pourquoi, alors, ne pas se contenter de la langue maternelle, du moment qu'elle est pleinement évoluée par une riche littérature, comme sont les langues française et anglaise?"

Je réponds : elle est nécessaire mais insuffisante pour le plein développement de l'esprit.

Certes, toute formation intellectuelle doit commencer par et se résoudre en l'expression la plus naturelle de la pensée, la langue maternelle. Assurément, il faut, dès le début, apprendre à l'enfant sa langue d'après la méthode humaniste, c'est-à-dire, non pas mécanique, ce qui est le propre des illettrés, mais par la grammaire et la littérature, de manière à le faire réfléchir, raisonner, comprendre, goûter, s'exprimer intelligemment.

Mais pourquoi donc une telle formation est-elle insuffisante?

A cause de la grande loi de l'effort, loi méconnue ou insuffisamment observée par l'unique culture de la langue maternelle.

Alexis Carrel, dans l'ouvrage précité, a puissamment mis en lumière cette nécessité de l'effort pour tout développement physique, intellectuel et moral. Tout son livre est une démonstration de la grande loi de l'effort. Au contraire, "l'absence de règle et d'effort empêche le développement de l'esprit."

"C'est déjà amollir et dégrader la race dans le peuple —où généralement elle est forte—que de le dispenser de l'effort. Tout est perdu quand on perd l'énergie. Le grand mérite du travail ardu c'est de donner l'habitude de vaincre les difficultés. Un homme est un homme seulement quand il surmonte les obstacles.—L'homme taille sa vie dans la résistance du granit.—Veut-on que l'homme prenne goût à sa tâche? Il faut qu'elle soit difficile. Toutes les choses

intéressantes sont difficiles.—Il ne faut pas faire travailler les hommes au-dessous de leur force si on veut les rendre forts.”

“Irresponsables sont les enfants élevés dans les écoles modernes par des professeurs qui ignorent la nécessité de l’effort, de la concentration intellectuelle et de la discipline morale. Plus tard, quand ils rencontrent l’indifférence du monde, les difficultés matérielles et mentales de la vie, ils sont incapables de s’y accommoder, sauf par la fuite, par la recherche d’un secours, d’une protection, et, le cas échéant, par le crime ou le suicide.” (p. 265.) “La loi de l’effort, surtout, doit être obéie. La dégénérescence du corps et de l’âme est le prix que doivent payer les individus et les races qui oublient cette nécessité.” (p. 278.)

D’ailleurs, n’est-ce pas un fait d’observation courante que la supériorité physique de l’athlète sur l’homme non exercé, de l’homme cultivé sur l’illettré?

Or, passé la période des débuts, celle de la première enfance, la langue maternelle—tout en demeurant sujet d’exercice très utile—n’offre plus cependant de difficulté sérieuse qui force l’enfant à la tension maxima de ses facultés. Le français (ou toute autre langue moderne) lui est devenu un exercice presque mécanique. Il applique à peu près sans réflexion et d’une manière naturelle, par habitude, le langage correct qui lui a été inculqué pendant ses premières années.

Pour provoquer cet effort qui le contraindra à tendre fortement ses facultés, à leur donner leur plein rendement, il faut autre chose, et cependant dans la même ligne, qui développe encore sa puissance de penser, d’exprimer la vérité, et qui reviendra finalement encore au profit de sa propre langue.

Or, les novateurs présentent l’étude des langues modernes comme offrant cette gymnastique indispensable et suffisante. Pour nous, l’étude de l’anglais serait tout indiquée.

Que l’étude de l’anglais soit nécessaire à notre jeunesse, c’est une vérité trop évidente pour s’attarder à la démontrer; mais qu’elle doive prendre la place des langues classiques comme instrument de formation intellectuelle dans l’enseignement secondaire, c’est une illusion de primaire.

La langue anglaise, étant presque identique au français dans

sa syntaxe et sa structure, et aussi dans sa tournure moderne résultant de la commune mentalité moderne, n'offre guère d'autre difficulté qu'un effort de mémoire, un placage où l'on remplace le mot français par le mot anglais correspondant. De sorte qu'un enfant intelligent, et déjà cultivé dans la langue française, pourra la comprendre sans syntaxe, sans analyse, donc sans exercice. Un bon dictionnaire, rendant compte des expressions un peu compliquées, lui suffira. Question littérature mise à part (car il ne s'agit pour le moment que d'exercice) c'est du psittacisme. On voit cela tous les jours chez les illettrés qui apprennent facilement une langue étrangère moderne et n'en restent pas moins frustes.

Du reste, pour l'étudiant qui a dompté les complexités des langues classiques, ce sera ensuite pour lui un jeu de maîtriser une langue moderne, surtout si, dès son enfance, il en a posé de solides fondements. Mais cette facilité ne le dispensera pas du travail. C'est ce qu'oublient trop de jeunes gens qui, au sortir du collège, se plaignent que leur cours classique ne leur ait pas tout donné et qu'ils sont encore condamnés au travail!

De cette facilité de passer d'une langue à l'autre donnons la preuve par un exemple visuel.

Voici une phrase anglaise. Sous chaque mot anglais je place le mot français correspondant. Le sens restera clair, la phrase correcte, sinon élégante.

Sooner,	therefore,	shall the swift	stags
Plus tôt,	donc,	les rapides	cerfs
feed	in	the airs, and the seas	abandon
brouteront,	dans les airs, et	les mers	abandonneront
fishes	unsheltered	on the shore;	
les poissons	à sec	sur la	plage;
sooner,	the bounds	of each	being traversed,
plus tôt,	les frontières de chacun	étant traversées,	
shall the Parthian exile	drink the	Saône or Germany	
le Parthe	exilé boira le	Saône ou la Germanie	
the Tigris, than his image	shall be	effaced from	
le Tigre, que son image	soit effacée de		
my breast,			
mon cœur.			

Voyons maintenant à quel beau résultat nous arriverons en employant la même méthode, la facile, pour traduire le même phrase du latin, d'où elle est extraite, en français.

Ante leves ergo pascentur in aethere cervi
 Avant légers donc brouteront dans l'air les cerfs
 Et freta destituent nudos in littore pisces;
 et les mers abandonneront à sec sur le rivage les poissons;
 Ante, perrerratis amborum finibus exul
 Avant, étant parcourus des deux les territoires exilé
 Aut Ararim Parthus bibet aut Germania Tigrim,
 ou la Saône le Parthe boira ou la Germanie le Tigre,
 Quam nostro illius labatur pectore vultus.
 que notre de lui glisse du cœur le visage.

Pour trouver à ce latin un sens, il faudra en faire l'analyse, opération des plus fructueuses pour l'intelligence. Puis, le rendre en bon français, en vrai français. C'est la pensée elle-même, et son les mots seulement, que le traducteur aura atteinte, comprise et exprimée.

Entrons dans le vif de la question.

Le grand avantage des langues anciennes sur les modernes est *l'intense travail de réflexion sur la pensée elle-même* qu'elles exigent. "L'idée exprimée dans un texte classique ne peut être comprise qu'au prix d'un effort des plus utiles pour l'esprit . . . Pour arriver à saisir toute la pensée de son auteur, l'élève doit engager avec lui une véritable lutte, où il lui faut mettre en œuvre tout un système de notions et de connaissances générales dont l'acquisition même lui a déjà coûté un excellent exercice" (Peeters, Etudes). C'est ce qu'on veut dire par gymnastique intellectuelle, et le mot est bien choisi car l'exercice intellectuel est aussi nécessaire et aussi efficace au développement de l'esprit que la gymnastique est nécessaire et efficace au développement corporel.

Cette gymnastique provient surtout de la diversité des langues anciennes d'avec les langues modernes. Elle oblige à un double effort: celui d'abord de comprendre le texte ancien, exprimé dans un langage tellement différent du langage moderne; ensuite, celui de l'exprimer en langue moderne, en français.

Pour traduire une langue moderne, il suffit généralement de

savoir les mots. Pour traduire une langue antique, la construction est tellement différente qu'il faut remonter à la pensée à travers les mots et les phrases; ensuite, reproduire cette pensée en mots et en phrases toutes différentes et cependant équivalentes pour le sens.

Pour être complet, il faudrait exposer les différents éléments du langage: lexicographie, morphologie, syntaxe; puis, au-delà de la grammaire, le contexte de la phrase dans tel passage ou ouvrage. Enfin, les différences qui caractérisent auteurs, genres, époques. Cela fait, montrer la nécessité, pour la traduction de ces langues, de remonter du mot à l'idée et sa nuance, de la phrase à la pensée intégrale et complète, avec tout son coloris, sa chaleur, son mouvement, son rythme: véritable transfusion d'âme.

Une si vaste entreprise déborde le cadre de cette modeste étude.

Je me contenterai—et d'ailleurs, ce sera plus clair—d'exposer la théorie par l'analyse d'un texte.

Soit le début du *Pro Milone*, de Cicéron.

Etsi vereor, judices, ne turpe sit pro fortissimo viro dicere incipientem timere; minimeque deceat, quum T. Annii Milo ipse magis de reipublicae salute quam de sua perturbetur, me ad ejus causam parem animi magnitudinem afferre non posse: tamen haec novi judicii nova forma terret oculos; qui, quocumque inciderunt, veterem consuetudinem fori et pristinum morem judiciorum requirunt.

Imaginez l'état d'esprit de l'apprenti latiniste en face de ce texte.

Va-t-il commencer, comme pour une version anglaise, par un placage de mot-à-mot qui, ipso facto, lui donnera le sens équivalent, après lequel il n'aura qu'une légère retouche à donner au style pour lui imprimer une physionomie plus française?

"Etsi: bien que — vereor: je crains — judices: juges — ne: que — turpe: honteux — sit: il soit . . ."

Mais bientôt ce stupide mot-à-mot ne dit plus rien à son intelligence; la construction française se détraque et ne livre

plus que ce barbare jargon: "pour un très courageux homme dire commençant craindre; nullement et qu'il convienne . . ."

Si l'élève veut comprendre, il devra avoir bien vite recours à l'*analyse*, à cet acte d'intelligence dont il aura à se servir toute sa vie pour comprendre, dont il aura à faire usage en particulier pour s'adonner au *travail scientifique*, lorsqu'il en sera devenu capable, grâce au développement intellectuel que lui aura donné l'habitude de l'analyse des textes; lorsque, par cette formation du raisonnement, il aura acquis le sens "heuristique."

Il étudiera donc d'abord le sens individuel des mots; ce n'est qu'un commencement, et ce n'est pas déjà si facile: il faut savoir distinguer: *vereor*, *timeo*, *terreri*; ne pas traduire précipitamment, à cause de sa ressemblance avec le français, *fortissimo* par très fort; *salus* peut signifier autre chose que salut; le sens de *causa* est bien varié, il faudra choisir. . . . Ce simple travail de lexicologie suppose déjà la connaissance étymologique, les lois de la dérivation et l'emploi, bien autrement subtil, des variations de sens d'après le contexte.

Puis il devra examiner, d'après les cas et les règles de la morphologie, les rapports des mots les uns aux autres: sujet, compléments, place du mot. De là il s'élèvera à l'examen des diverses propositions et de leurs rapports entre elles; il s'aidera dans cette recherche par l'application des règles de syntaxe. Il devra observer attentivement l'emploi des conjonctions et des particules qui relient les propositions entre elles et les éclairent sur leur nature: "Etsi . . . tamen, . . . ne; quum; magis . . . quam."

D'après sa grammaire il conclura que "etsi *vereor* est une proposition concessive; ne *turpe sit*; complétive de *vereor*; *incipientem*; sujet de *dicere* . . ."

Ainsi, cette analyse de syntaxe exercera sa logique sur les opérations essentielles de l'intelligence laquelle emploie nécessairement les diverses propositions énoncées dans la syntaxe grammaticale: complétives, finales, consécutives, comparatives, etc. C'est la logique qui s'éveille et se prépare à de plus grands efforts.

La lumière commence à se faire. Il lui a fallu raisonner et conclure du sens des mots, des propositions et de leurs rapports entre elles au sens total de la phrase.

Mais ce n'est pas tout. Aucune grammaire ne peut renfermer toute la langue. La grammaire appliquée, il lui reste, pour mieux comprendre, un grand travail d'intuition. Son intelligence devra réfléchir intensément pour trouver la nuance que la grammaire ne lui livre pas.

Alors, il pourra se mettre à la traduction.

Mais ici encore quel effort nouveau! Il a compris le texte latin, soit, mais la langue française est si différente de la langue latine par sa construction! S'il calque trop servilement, ce sera du barbare mot-à-mot; s'il brise trop la construction latine pour l'adapter à la phrase française, il détruira la marche psychologique de l'auteur à traduire.

Se préoccupant d'abord plus du sens exact que de l'élégance française, il obtiendra d'abord à peu près de résultat :

Etsi vereor, judices	Bien que je craigne, juges,
ne turpe sit	qu'il ne soit honteux,
timere	que craigne
incipientem dicere	celui qui commence à défendre
pro fortissimo viro,	un homme de cœur,
quum T. Annii ipse	et alors que Milon lui-même
magis perturbetur	est plus préoccupé
de salute reipublicae	de la sécurité de l'Etat
quam de sua,	que de la sienne,
minime deceat	bien qu'il ne convienne guère
me nonposse afferre	que moi, je ne puisse apporter
ad ejus causam	à sa défense
parem haec animi magni-	une égale grandeur d'âme,
tudinem, tamen nova forma	pourtant l'appareil inusité
novi judicii	de ce tribunal extraordinaire
terret oculos,	effraye le regard
qui, quocumque inciderunt,	qui, où qu'il se tourne,
requirunt	cherche en vain
veterem consuetudinem fori	les vieilles coutumes du forum
et pristinum morem	et l'antique usage du
judiciorum.	barreau.

C'est bien le sens. Mais est-ce là du français? Pas tout à

fait. Il faudra comparer plusieurs traductions possibles de la même expression et choisir. Comme le détail de ce travail serait trop long (et combien fastidieux!). Je donnerai ici, tout simplement, deux traductions. Celle-ci d'abord: (Trad. de Guerle, Collection Pauckoucke).

"Peut-être, juges, dois-je redouter la honte de montrer peu d'assurance en prenant la parole pour un homme d'un grand courage; peut-être, quand T. Annus Milon, tranquille pour lui-même, ne craint que pour l'Etat, sied-il mal à son défenseur de ne pas apporter à cette tribune autant de force d'âme. Je l'avouerai pourtant, cet appareil insolite d'un tribunal nouveau épouvante mes regards; en quelque endroit qu'ils tombent, ils cherchent les anciens usages du barreau, et les formes antiques de la justice."

Mais, se dit l'élève qui vient de faire cette traduction, supposons-le du moins, celle-ci ne me satisfait pas tout à fait. Mon camarade L'espérance pourrait bien trouver autre chose et m'enlever le prix. Je me flatte de faire mieux. Je vais essayer de serrer le texte de plus près en faisant du français impeccable. Et voici ce qu'il rédige:

"Juges, peut-être n'est-il guère honorable, pour l'avocat d'un homme de cœur, de débiter en tremblant. Et quand Milon se préoccupe de la sécurité de l'Etat plus que de la sienne, conviendrait-il que moi, je n'apporte à sa défense une égale grandeur d'âme? Et pourtant, l'appareil, inusité de ce tribunal extraordinaire effraye le regard; où qu'il se tourne, il cherche en vain les vieilles coutumes du forum et l'antique usage des tribunaux."

Voilà mon jeune Lajoie joyeux! "Et vidit quod esset bonum!" Il a compris à fond, il a produit lui-même une œuvre de son intelligence. Selon la belle expression du savant Pierre Termier, il a connu "les joies du travail intellectuel". Et cette joie, un peu enfantine à cet âge, le préparera à goûter plus tard les joies autrement profondes des grandes victoires des découvertes scientifiques et de la contemplation intellectuelle.

Qu'a-t-il fait, en somme? Il a lutté pour reproduire son modèle. A travers les mots, les propositions, les phrases, il a poursuivi et atteint son idéal. Il l'a réfléchi et transformé selon

sa mentalité. Victoire, comme plus tard il criera victoire! après chaque conquête intellectuelle. Il a fait plus, certes, qu'une bonne version latine, il a agrandi sa puissance mentale; mieux encore, il a développé le goût du vrai et du beau dans la pensée et son expression, il a acquis le culte de la perfection dans l'œuvre intellectuelle. Que, plus tard, il écrive en français ou en anglais, il ne perdra pas ces qualités. Il sera un maître dans l'art viril de la pensée et de son expression. Il a développé, tout jeune, le magnifique courage de l'intelligence!

Quel profit! Comme nous voilà loin de la traduction d'une langue moderne en une autre!

Et notez que je n'ai pas été chercher un texte trop difficile. Souvent, pour rendre le pensée sans trop la trahir, il faudra bouleverser entièrement l'ordre de la phrase. Qui ne voit que par ce vigoureux exercice c'est la pensée elle-même qui est atteinte, exercée, développée et qu'un cerveau qui s'est adonné sérieusement durant plusieurs années à une telle gymnastique a acquis une puissance étonnante sur ses facultés intellectuelles, puissance qui lui permettra de s'élever plus tard à de plus hautes sphères, de réussir aux études supérieures.

Et notez aussi que j'omets, pour le moment, le point de vue littéraire des œuvres antiques, pour m'en tenir au point de vue linguistique.

Et à l'exercice de la version (qui est le terme), je pourrais ajouter une démonstration équivalente pour l'exercice du thème (synthèse).

Le grec fournirait des exemples non moins probants de l'ingéniosité de la syntaxe pour l'expression de la pensée. Le système des particules est merveilleux pour mettre les mots en relief, pour montrer la logique des pensées, et tout particulièrement pour éclairer les nuances.

Au point de vue de l'enchaînement des idées, de leur coordination et subordination, de l'architecture du langage, je ne connais guère de meilleure illustration qu'une immense phrase grecque de l'Apologie de Socrate, qui commence ainsi: "Hoste oud'ei me nun humeis aphiete" (ch. 17) et finit ainsi: "Ta de phaulotera peri pleionos."

S'il en est qui ont la curiosité de vérifier dans le texte, il verront que c'est une phrase vaste, complexe, et cependant claire, grâce au système des conjonctions et des particules qui rend visible en un coup d'œil l'enchaînement, la subordination, la cohérence des propositions autour d'une idée centrale: "ei aphoite . . . eipoim'an."

Pour comprendre cette phrase, il a fallu à l'étudiant, d'abord la démonter pièce a pièce, comparer les idées et déterminer leur valeur relative. Puis, reprendre l'opération inverse pour *repenser* en français.

Un écrivain, ancien ou moderne, capable de penser une telle phrase, révèle une puissante intelligence. Mais l'enfant (ou le jeune homme) capable de la comprendre révèle lui aussi une force intellectuelle remarquable pour son âge et son degré de culture. On peut prévoir qu'il sera capable d'embrasser un jour une question complexe, avec toutes ses ramifications et ses nuances, qu'il s'agisse de science, d'art, d'architecture, de sociologie, d'économie politique, de philosophie. A tout le moins, ce sera une excellente préparation à l'étude et à la compréhension des questions les plus complexes.

Mais, il y a plus. Cette même qualité de composition de la phrase, de puissance ordonnée, logique, se retrouve plus en grand dans l'œuvre entière dont la phrase n'est qu'une partie, une cellule dans l'organisme vivant. Un discours de Cicéron ou de Démosthène, un dialogue de Platon, reproduit sur une plus grande échelle ces puissantes qualités de logique et d'enchaînement d'idées qui caractérisent les phrases précitées.

De sorte que l'étudiant qui, du mot à la phrase, de la phrase au passage, a remonté au discours entier et à l'œuvre intégrale, découvre une ordonnance, prend possession d'un vaste édifice fabriqué par la pensée des grands génies. Il apprend à en construire lui-même. Le voilà prêt à aborder les questions d'ensemble; à travers leur complexité, découvrir le principe d'unité qui simplifie tout et clarifie tout par l'ordre. Il peut discuter une question, composer un livre, résoudre des problèmes compliqués, opérations interdites au primaire qui ne peut voir qu'un détail à la fois.

Le voilà prêt à aborder les travaux scientifiques et philosophiques :

Plus d'un lecteur a dû se dire que ses avantages techniques des langues anciennes se retrouvent (au moins en grande partie) dans l'étude des sciences : en particulier, précision, sens de l'ordre et de l'abstraction dans les mathématiques, réalisme dans les sciences.

Qu'en conclure ? Qu'il faut leur donner leur place, non seulement dans l'enseignement supérieur, à l'Université, où elles doivent dominer par la part d'humanisme qui leur est propre, mais encore dans l'enseignement secondaire.

Mais quelle place ? La seconde, disons-nous, en maintenant la priorité du classique.

Cette priorité découle de ce qui a été dit tout à l'heure.

Les sciences, si elles ne sont pas une sèche nomenclature mnémotechnique (alors, ce ne serait plus de l'humanisme) ont besoin, pour être acquises et comprises, d'une intelligence préalablement formée par les langues. Toute éducation (je crois l'avoir démontré,—ou plutôt c'est une évidence) commence par l'étude du langage qui est l'instrument de la pensée. Pour s'élever à la littérature, à l'art, à la science, à la philosophie, il faut d'abord forger l'instrument, et l'instrument *proportionné* à l'enfance, celui qui est conforme à sa nature.

D'ailleurs, les sciences ne mettent pas en opération tout l'appareil psychologique au même degré que les langues. Voilà pour le point de vue technique. Au point de vue de l'humanisme, les classiques donnent à la jeunesse une formation que les sciences ne peuvent remplacer *prématurément*.

Donner à celles-ci la prépondérance serait éteindre ou obscurcir l'idéalisme de l'enfant, orienter ses facultés principalement vers les fins utilitaires de la vie, risquer de matérialiser son âme.

Pour émettre cette assertion peu savoureuse à la foule, je m'abrite encore sous le grand nom de Carrel : "Certes, la science pure ne nous apporte jamais directement le mal. Mais elle devient dangereuse quand, dans sa fascinante beauté, elle enferme complètement notre intelligence dans la matière

inanimée. . . . Ce ne sont pas les sciences mécaniques, physiques et chimiques qui nous apporteront la moralité, l'intelligence, la santé, l'équilibre nerveux, la sécurité et la paix."

Mais je prie mon lecteur de bien remarquer qu'il s'agit d'éducation secondaire et non supérieure, de l'enfant et non de l'intelligence adulte. Il y a, certes, une méthode humaniste de cultiver les sciences, et, même au collège, l'esprit scientifique doit être éveillé et excité chez l'enfant, mais à condition d'être vivifié par le souci du meilleur développement humain, d'être orienté vers l'acquisition de la Vérité pure. . . . Il faut avouer que peu d'enfant sont capables d'une telle hauteur de vue et que presque tous y chercheront surtout des moyens puissants pour s'enrichir ou satisfaire leurs aspirations au confort et au luxe.

Et cette insuffisance de maturité psychologique est encore une bonne raison pour retarder, dans nos collèges, l'effort scientifique maximum jusqu'aux classes de philosophie.

Au reste, cette priorité établie, je n'oserais déterminer la part respective, la proportion que chacune des deux disciplines doit occuper dans l'éducation secondaire. Qu'il suffise de dire que les sciences, au collège, pour rester dans la tendance humaniste, doivent viser, non pas à faire de l'enfant une encyclopédie, "un petit prodige," un savant, mais une "tête bien faite" (Montaigne), c'est à dire un esprit puissant, selon l'âge, mais équilibré par un jugement droit. Elles collaboreront ainsi au but de la formation classique, s'harmoniseront avec elle pour faire de l'enfant un homme: humanisme.

Le savant, le philosophe, viendra après, par la spécialisation, apanage de l'Université.

Pour établir complètement la valeur technique des classiques en pédagogie, il resterait à montrer *l'excellence intrinsèque* de ces langues, comme moyen d'expression.

On voit trop quelle immense entreprise serait une telle démonstration. Je me bornerai à ces deux citations de maîtres:

"Il faudrait montrer ces innombrables ressources, ces moyens si délicats que la langue latine offre à l'âme pour se manifester vivante et pittoresque; il faudrait mettre en relief cette souplesse et cette sensibilité mobile de l'expres-

sion, toujours prête à recevoir les touches du dedans et à les traduire au dehors, comme ces physionomies vives où l'âme rayonne de toute part. Un mot légèrement déplacé, mis en saillie au début de la phrase, séparé du mot qu'il détermine, ou rejeté à la fin; l'accent oratoire relevant tantôt une idée, tantôt une autre; la symétrie ou les brusques oppositions de termes; les coupes savamment ménagées; l'accumulation des particules, ou au contraire la juxtaposition pure et simple des mots importants; l'influence du contexte pour déterminer le sens un peu vague de telle expression ou de telle forme syntaxique; le choix du cas, du temps et surtout du mode, livré à la seule décision de la pensée: Tout cela est merveilleusement expressif des nuances les plus délicates. Rien n'éveille mieux l'esprit d'observation; rien ne présente, à l'analyse psychologique une matière si riche et si transparente; rien ne parle davantage aux facultés esthétiques, et ne fait si bien saisir les procédés artistiques et la perfection de l'art." (Bainvel—*Etudes*, 53.117.)

Et Charmot dans *l'Humanisme*:

"La phrase latine est surtout *belle par son architecture*. Toutes les lignes, tous les reliefs, toutes les nervures, tous les noeuds de la pensée, sont accusés vigoureusement par les particules de liaison, qui, des liens logiques, font pour ainsi dire des objets spéciaux, à l'égal des autres, substantifs et verbes. Ainsi la raison est forcée de s'y arrêter, d'y réfléchir, de s'exercer au raisonnement pur. La subordination, la coordination, la symétrie, l'antithèse, le parallélisme des idées ont toutes leur expression verbale. Il semble que la vérité intellectuelle et que l'unité des parties soient, pour les Romains, la fin suprême de l'écrivain, l'idéal du style. Que l'écolier français se réjouisse donc de ce bienfait providentiel d'une langue, construite comme nos cathédrales gothiques, avec tous ses membres apparents aux yeux, afin de pouvoir suivre facilement la pensée dans toutes ses articulations logiques, et ainsi dominer le flot des images, cultiver sa raison."

Cette page exprime bien la perfection de détail du style antique. Ajoutons-y ces quelques remarques.

J'ai déjà fait ressortir le caractère architectural de la phrase latine ou grecque, d'où résulte un caractère de logique, d'ordre, de grandeur qu'on ne retrouve plus guère que dans la période

oratoire du grand siècle de Bossuet, style quelque peu désuet aujourd'hui.

Notons encore la souplesse de syntaxe des propositions qui, déplacées, permettent de varier le sens indéfiniment.

La valeur expressive des mots tout près de leur origine. Celui-ci, par exemple de Thucydide: antepexelaunein signifie qu'une troupe de cavalerie (elaunein: chevaucher) sort de ses lignes (ex) pour riposter (epi) à une attaque de l'ennemi (anti).

Mais il faut résumer. Tous les hommes cultivés, de différentes langues, s'accordent à considérer le latin et le grec comme des langues parfaites: parfaites par l'expression de la pensée et des sentiments de l'âme dans ses nuances les plus délicates; parfaites par leurs syntaxes qui sont probablement l'apogée du langage humain, le grec surtout, et dont les règles extraites par les grammairiens modernes semblent reproduire les règles de la pensée humaine elle-même; parfaite par les écrivains de génie qui les ont façonnées et, par elles, ont laissé en héritage à l'humanité des modèles achevés.

Je signale à ce sujet à ceux que cela intéresse les pages 267, 268, 269 de Charnot. (*l'Humanisme.*)

Je ne puis m'empêcher, de terminer, du moins cette partie technique de mon travail, par cette citation:

"Le réseau des mots et des phrases qu'il faut élucider suit, dans sa complexité vivante, les détours du cœur. C'est un des principaux mérites des littératures anciennes d'être totalement et profondément humaines, et d'exprimer le fond de l'âme, dans ce qu'elle a de plus universel, avec une simplicité quasi élémentaire et cependant toute proche de la perfection. Elles ont débrouillé l'écheveau des pensées et des sentiments de l'homme pour toujours. C'est pourquoi l'enfant à qui le monde intérieur est impénétrable et qui n'a, par lui-même, ni l'attrait ni la force de l'étudier,—encore moins la capacité de l'exprimer,—est initié par la 'manuduction' des lettres antiques à l'intérêt psychologique et à l'esprit de finesse dans la connaissance du cœur humain.

"Je ne vois rien de semblable dans les raisonnements que lui font faire les sciences, sur les chiffres, les lignes, les signes et les lois de la matière."

* * *

Je me suis longuement attardé sur la valeur technique en pédagogie des langues latine et grecque. Cependant cette gymnastique intellectuelle, si puissante soit-elle, pour le développement de l'esprit n'est *ni le seul* argument, *ni le principal* pour justifier l'emploi de ces langues. Leur excellence pour la formation humaniste ressort aussi de plusieurs autres valeurs. L'une d'entr'elles est :

2. *L'héritage de la pensée antique.*

On parle de progrès par l'avancement des sciences. Fort bien. Mais rappelons-nous qu'il n'y a pas de véritable progrès sans tradition. L'histoire autant que l'économique est la science de l'homme d'Etat. Que diriez-vous d'un gouvernant qui ignorerait absolument ce qui s'est fait avant lui? Qui ne tiendrait compte ni de la Confédération, ni des relations avec la couronne britannique et le développement constitutionnel, ni du fait du régime français avant la conquête? Il ne comprendrait ni son peuple ni son temps.

Ainsi nous n'avons pas le droit de nous représenter notre époque isolée du passé et comme un arbre sans racines. L'humanité en marche depuis tant de millénaires a conquis dans sa vie des trésors de pensée, d'expérience, de beauté, dont le monde moderne vit encore en grande partie. Laisser perdre ces trésors serait nous appauvrir. A preuve les immenses efforts des archéologues, des gouvernements et de financiers éclairés pour retrouver les ruines de l'antiquité enfouies dans la terre!

Or, s'il est vrai que toute l'antiquité n'est pas contenue dans la tradition latine et grecque, il est vrai néanmoins de dire que c'est surtout par le moyen de ces deux langues, la grecque surtout, que ce que nous en savons nous est parvenu; que notre civilisation, à nous fils d'Européens, descend en droite ligne de la civilisation gréco-latine; à condition d'ajouter, cependant, qu'au commencement de notre ère, le christianisme vint la revivifier par un ferment nouveau de spiritualisme.

Mais le christianisme ne renia aucune parcelle de l'héritage antique compatible avec sa morale supérieure. Ce fut lui, au contraire, qui, dans l'effondrement qui suivit l'invasion des

barbares, recueillit les trésors de la civilisation hellénique et romaine, contenus surtout dans sa littérature et les transmitt au monde moderne.

Que de pages il faudrait pour dresser l'inventaire de ce que nous devons à nos ancêtres gréco-latins!

C'est d'abord la jeune et fraîche poésie d'Homère et des anciens aèdes, révélatrice d'une civilisation encore dans l'enfance, mais, combien originale et puissante. Puis, l'épopée que nous révèle les grands historiens grecs, celle où l'on contemple la survie d'un peuple petit par le nombre mais grand par le génie et le courage, triomphe des forces spirituelles sur la barbarie brutale et envahissante; quelle leçon pour toutes les époques subséquentes, pour la nôtre tellement menacée par le matérialisme!

Et voici le grand siècle: celui de Périclès: poésie lyrique, drame, éloquence, arts dont les débris du Parthénon sont le plus splendide témoignage. Et durant de longs siècles ce trésor de l'humanité future s'amplifie.

Et non seulement la littérature et l'esthétique de la Grèce enrichissent notre civilisation, mais la pensée antique inspire encore nos penseurs modernes.

Quels que soient les progrès récents des sciences et les nouveaux aspects d'un univers agrandi, la philosophie contemporaine ne peut se payer de plus grands noms que de ceux de Platon et d'Aristote et aucun philosophe, aucun homme cultivé ne peut les ignorer.

Ce que la science moderne doit aux Grecs, le philosophe et savant Taine nous le dit d'un mot: "Ils pensent pour penser, et c'est pour cela qu'ils ont fait les sciences. Nous n'en construisons pas une aujourd'hui qui ne s'appuie sur les fondements qu'ils ont posés." (*Philosophie de l'Art*, p. 116.)

Rome, d'abord l'humble élève de la Grèce, assimile si bien ses leçons, qu'elle passe maîtresse à son tour et rivale d'Athènes: et d'innombrables générations d'écoliers forment leur esprit et leur jugement, développent leurs aptitudes littéraires à l'école de Virgile, de Cicéron, de Tite-Live, d'Horace. Et par leurs historiens et leurs grandioses monuments, les Romains donnent

à nos contemporains des leçons de construction, de législation, de gouvernement.

Une dernière efflorescence avec les Pères latins et grecs : Chrysostôme, Basile, Jérôme, Augustin, aujourd'hui comme naguère alimentent une multitude d'âme altérées de mystique et de vie spirituelle. Leur importance capitale mériterait un plus long développement dans cette étude.

A travers le Moyen-Age, le Renaissance, l'Âge Moderne, la tradition gréco-latine se maintient et c'est elle qui, avec le christianisme, ne l'oublions pas, inspire et pétrit l'âme européenne.

Et c'est ainsi que la langue française, et par conséquent l'âme française recueille l'héritage de l'antiquité classique. Ce que j'en dit ici pourrait s'appliquer, à des degrés divers, aux autres langues européennes, notamment à l'anglais.

"Les plus grands auteurs de notre littérature, à peu près sans exception, se sont tellement imprégnés de grec et de latin, qu'il est difficile de comprendre parfaitement leurs œuvres, de les goûter, et surtout de les expliquer, si l'on n'a pas fait les humanités qui les ont formés. Elles sont saturées d'antiquité. Nos écrivains ont épuré, enrichi, illustré la langue française, son vocabulaire et sa syntaxe, dans tous les siècles, en remettant le métal en fusion au moule antique. . . . Comprendre une œuvre ou une langue, c'est se rendre compte de son origine, de sa genèse, de son évolution. Or l'origine, la genèse, l'évolution de la nôtre est en dépendance immédiate des sources latines. . . . Le grec et le latin sont les seuls moyens d'arriver, par l'intelligence des éléments qui en constituent la trame profonde, à un Humanisme français de qualité supérieure." (Charmot, 262.)

Pour mesurer l'importance des sources antiques dans notre vie intellectuelle, faisons cette supposition : retranchons de nos langues et littératures modernes tout ce qu'elles doivent aux langues latine et grecque. Rayons toutes les allusions, reproductions, citations, adaptations, reminiscences, de ces littératures ; et toutes les constructions syntaxiques et les étymologies latines et grecques : Que nous resterait-il ?

Un cri d'horreur s'éleva du monde entier en 1915 lorsque l'ennemi bombardait la cathédrale de Reims. Quelle clameur

s'élèverait contre le barbare qui saccagerait, même de nos jours, ce qui subsiste encore des œuvres d'art de l'antiquité, du Parthénon, par exemple!

Et qu'on ne dise pas que des traductions suffiraient. Toute traduction est incomplète et fautive. Par elle on ne peut pénétrer dans l'intimité de la pensée. La science de l'antiquité acquise par des traductions serait comparable à un musée qui exposerait des copies de Raphael et de Michel-Ange. On aurait des chefs-d'œuvres une connaissance superficielle, de seconde main, comme celle d'un homme qu'on connaît parce qu'on le rencontre parfois; mais ce n'est pas là de l'intimité.

Rompre avec l'Antiquité par la perte des langues latine et grecque serait priver les générations nouvelles des richesses de vies de leurs ancêtres, comme on prive un arbre de sa sève en le déracinant. Ce serait rejeter dans l'oubli des trésors de science, d'esthétique, de philosophie, d'expérience humaine.

Ce serait porter atteinte à la vie de l'humanité comme on porte atteinte à la vie d'un enfant que l'on séparerait violemment d'une illustre lignée riche d'hérités fécondes.

Une étude intéressante serait de rechercher dans les auteurs anciens les passages nombreux qui pourraient trouver une piquante application à l'histoire contemporaine. Durant la guerre, des journalistes français s'avisèrent de reproduire des tirades oratoires de Démosthène gourmandant ses compatriotes, et de les appliquer aux Français, ces autres Athéniens: "Quand donc, Athéniens, ferez-vous votre devoir?"

Maurice Croiset, ce grand Helléniste, dit fort bien dans la *Civilisation de la Grèce Antique* (p. 223): "Elles (les harangues de Démosthène) ont été de tout temps lues et méditées avec profit par les historiens, par les hommes politiques, par tous les esprits de haute culture, et tous y ont trouvé des leçons de psychologie, d'analyse historique, de raisonnement, des suggestions fécondes non moins que de nobles inspirations."

De cette actualité éternelle je me permettrai de reproduire ce trait parce qu'il est touchant et court. Un soldat français écrivait *du fond des tranchées* à son ancien maître d'humanité: "Mon Père, je me murmure les vers de l'héroïne de Sophocle

(Antigone) que j'ai incarnée sur la scène du collège : O Tumbos, o numpheion, o kataskaphes oikesis aeiphrouros . . . ô tombeau, ô lit nuptial, ô demeure souterraine qui me gardera à jamais . . . (*Etudes*, 1922.)

3. *Esthétique, moralité, idéalisme.*

Le groupement de ces trois termes en un seul titre a de quoi surprendre. J'avoue qu'en un travail plus complet ces différents éléments de l'humanisme intégral devraient être traités séparément. Je les réunis par souci d'abrégé.

Mais surtout parce qu'il s'agit ici d'éducation de l'enfance et de la jeunesse. Si l'identification, ou du moins l'union étroite, de l'art et de la morale est contestable en soi et pour les esprits adultes, en éducation elle ne l'est pas. De toute évidence il faut à la jeunesse proposer la beauté moralisatrice, des modèles qui, par la splendeur du Vrai, du Bien et du Beau, élèveront les âmes et les orienteront vers les vertus morales non moins qu'à la réalisation d'un idéal artistique.

Disons donc brièvement les qualités suprêmes de l'humanisme antique.

Les anciens ont porté à sa perfection l'art de *composer* des œuvres entières, à tel point que toutes les littératures modernes (au moins occidentales) les ont pris pour modèles dont on ne peut s'écarter considérablement sans tomber dans le mauvais goût : exemple, le *Pro Milone*, qu'on peut comparer ou à un chef-d'œuvre d'architecture solide, élégant et harmonieux dans toutes ses parties ou à une armée dont les différentes unités étroitement reliées entre elles, se prêtent un mutuel appui et produisent un effet d'ensemble irrésistible. Autres exemples : *L'Enéide* dans sa vaste complexité qui ne lui enlève rien de son admirable unité ; les dialogues de Platon où l'unité de la pensée se cache sous la souplesse de la forme.

Ils ont abordé tous les genres et là encore il sont nos modèles. Il serait superflu d'insister.

Les morceaux brillants—où se complaisent tant les modernes—y abondent : Platon : le poète ; Homère : consolations de Thétis à Achille ; Eschyle : *Messager* décrivant la bataille de

Salamine; Virgile: Mort de César; Horace: caelo tonantem (VII. 5).

Le détail de l'expression est parfait; le style est travaillé avec tout le raffinement de nos Parnassiens mais avec plus de clarté, de nuance, et avec un instrument, la langue, d'une sonorité et d'une souplesse supérieures. Que de bijoux il faudrait étaler; Virgile nous en offre une moisson étincelante: Ce vers grandiose qui donne la sensation de l'infini:

Impiaque aeternam timuerunt saecula noctem. (*Géo.* I. 468).

Sentiment de terreur mystérieuse:

Vox quoque per lucos vulgo exaudita silentes. (*Ibid.* 476).

Vaste et gracieux tableau ramassé en deux vers:

Et jam summa procul villarum culmina fumant,
Majoresque cadunt altis de montibus umbrae. (*Ecl.* I. 83).

Et cette merveille où se concentrent vision immense, musique douloureuse, vibrations profondes du cœur maternel, symbolisme . . . et tout cela en cinq mots:

. . . cunctaeque profundum
pontum adspectabun flentes. (*En.* V. 614).

Naturellement, ce ne sont là que quelques exemples d'un recueil qui pourrait être infini.

La littérature grecque serait encore plus fertile en citations heureuses . . . si elle était comprise à l'égal du latin. J'en ferai donc grâce au lecteur.

Dans mon impuissance à tout dire je veux insister du moins sur l'aptitude des études classiques à développer chez l'enfant l'idéalisme par la contemplation de la beauté morale exprimée en langage splendide: c'est l'union de l'art et de la morale, facteurs essentiels de l'éducation humaniste.

Les anciens ont en effet exprimé, et dans la forme la plus parfaite, les plus nobles sentiments de la nature humaine, et c'est là ce qui enchante l'enfant, et qui élève son âme.

Homère lui présente l'image de la majesté paternelle sous la figure du roi Priam, celle de l'affection conjugale dans la

fameuse entrevue d'Hector et d'Andromaque; le charme de l'enfance dans le petit Astyanax, l'héroïsme guerrier de se héros dans tout l'Illiade, l'amitié d'Achille et de Patrocle, la fidélité conjugale de Pénélope. — L'émouvante figure de la mère est dessinée plus suavement, me semble-t-il par Virgile en maints endroits :

Et trepidæ matres pressere ad corpora natos. (*En.* VII. 518).

Le Phédon qui raconte la mort de Socrate est un magnifique témoignage de la croyance à l'immortalité de l'âme et de l'espérance invincible du juste.

Démosthène dresse l'image de la patrie à défendre et, dans l'apostrophe aux morts de Chéronée exalte bien au dessus du succès temporaire la supériorité du devoir accompli. Oedipe-Roi représente la grandeur d'âme dans l'adversité. Conçoit-on rien de plus tragique que son apparition sur le théâtre, les yeux crevés et les orbites ensanglantés? Connaissiez-vous exclamation plus propre à exciter la pitié que celle de Jocaste découvrant la vérité en un terrible éclair et s'écriant :

"Iou, iou! dustène . . . Hélas, hélas! infortuné!
C'est le seul nom que je puisse te donner!"

Horace lui-même, si spirituel et si léger apparemment, vous soulève d'admiration par Régulus se sacrifiant afin de rester fidèle à la parole donnée :

Fertur pudicæ conjugis osculum
Atqui sciebat . . . (*Od.* III. V).

Voulez-vous goûter le sentiment de la nature, si cher aux romantiques? ouvrez les Géorgiques :

O fortunatos nimium, sua si bona norint, . . .
Agricolæ! (*G.* I. 458).

Même le prolixe Ovide se mêle d'être sublime à ses heures :

Os homini sublime dedit, coelumque tueri
Jussit, et erectos ad sidera tollere vultus. (*Métam.* I. 85).

Mais revenez bien vite à Virgile, ce maître du cœur et ce maître styliste, pour retenir vos élèves dans la région du sublime :

Magnus ab integro saeculorum nascitur ordo . . .
Jam nova progenies caelo demittitur alto.

Et terminons par l'héroïne de Sophocle, cette virginale Antigone qui dit d'elle-même :

Outoi sunechthein, alla sumphilein ephun.

(Je ne suis pas née pour partager la haine mais l'amour,) et qui trouve dans son amour même la force de proclamer devant le tyran la loi suprême de la conscience.

"lois éternelles toujours vivantes, supérieures à toutes les lois humaines, lois inéprouvées contre lesquelles rien ne saurait prévaloir, car elles sont d'origine divine."

Elle est bien la sœur de ces vierges chrétiennes qui, quelques siècles plus tard, non pas isolées mais par légions, sacrifieront leur beauté, leur jeunesse, leur vie à l'idéal de chasteté et d'éternelle jeunesse que leur montrera leur foi.

Car que notre enthousiasme pour l'art antique ne nous fasse pas oublier, dans l'éducation, que le christianisme est venu élever et transformer ce monde, lui a inspiré un idéal supérieur à toutes ses splendeurs artistiques, Jésus-Christ et Son Evangile, et que sans lui l'humanisme est découronné.

La passion de l'idéal! N'est-ce pas là, en définitive, le fruit propre de l'humanisme? Tandis que l'utilitarisme fausse le sens de l'éducation en la dirigeant vers la conquête et la jouissance de la matière, l'humanisme oriente dès le bas âge l'âme de l'enfant vers les valeurs spirituelles, vers le beau, le grand, l'héroïsme, l'idéal. Quiconque a vibré durant des années aux accents de l'harmonie, qui a tressailli d'admiration désintéressée à la contemplation de la beauté, qui a travaillé peiné et lutté durant son enfance pour reproduire la splendeur du vrai, celui-là pourra défaillir parfois, mais il gardera de son éducation première un dégoût instinctif de la vulgarité, un souci d'élégance morale, un élan vers la grandeur, un désir fécond de s'élever, de se faire une vie noble et féconde, de devenir une valeur, un bienfaiteur de ses concitoyens et de l'humanité: cela par l'humanisme!

* * *

Comme tous les écrivains, j'ai l'illusion d'être écouté par une grande foule, et je crois entendre des ricanements, des railleries, des sarcasmes monter de cette foule. Il me semble même voir des sourires indulgents mais sceptiques d'intellectuels apitoyés sur ma naïveté. C'est une clameur qui déferle en ces termes :

“Humaniste chimérique, tout cela est bien beau, mais il y a le pain quotidien à gagner, l'âpre lutte pour la vie et notre siècle de fer . . . et d'électricité. Il faut marcher à son allure . . .”

Brièvement je réponds :

III.—L'UTILE (SINON L'UTILITARISME) NE PERD RIEN À
L'ÉDUCATION HUMANISTE.

D'abord, en cédant la prépondérance à l'humanisme dans l'éducation secondaire, les préoccupations pratiques ont encore leur place. Il le faut bien.

Puis, le jeune homme, par le fait même que l'éducation humaniste a cultivé en lui, et avec intensité, l'intelligence et ses facultés supérieures, ce jeune homme aura plus de chance de réussir dans la vie, surtout de s'élever au-dessus de ceux dont les facultés sont demeurées à mi-chemin.

C'est un fait d'expérience courante que ceux qui ont eu le privilège de la formation classique (laquelle n'a pas exclu une certaine culture scientifique, ne l'oublions pas), même s'ils sont d'abord un peu en retard pour les carrières techniques, ne tardent pas à reconquérir l'avance prise par les autres et bientôt à les dépasser. Les grands maîtres de l'industrie préfèrent pour les postes plus élevés à ceux qui, plus immédiatement et plus pratiquement préparés, ont cependant une culture inférieure.

De cette assertion font foi de multiples enquêtes faites en différents pays : Angleterre, France, Allemagne, Etat-Unis, sur la *valeur pratique* de la formation classique. Je ne puis en citer qu'un petit nombre de témoignages.

Nul ne récusera la haute autorité de M. James, ex-Président de l'Université d'Illinois :

"Je parierais en faveur du gradué d'un collège classique qui aurait choisi le génie sous avoir étudié cette branche une seule heure, plutôt qu'en faveur d'un ingénieur qui n'aurait pas la culture libérale.

"Je choisirais plutôt un homme qui sort du collège sans aucune instruction spéciale en médecine, qu'un autre qui aurait passé deux à quatre ans du même temps dans une école de médecine sans acquérir la formation fondamentale, qui est la culture libérale." (*America*, 27/5/22, p. 126.)

Je renvoie les lecteurs curieux d'approfondir cette question du sain utilitarisme des études classiques aux livres où sont consignés les résultats de cette enquête.

Peut-être trouveront-ils plus facilement à leur portée *Value of the Classics*, Princeton, University Press, 1917.

J'en extrais ces témoignages :

"Aussi loin que s'étend notre expérience, dit le recteur de l'Université de Rochester, M. Rhees, nous n'avons pas trouvé de moyen comparable à l'étude du grec et du latin pour le développement de la *maturité intellectuelle*." (p. 172.)

Cela ne veut pas dire, évidemment, que la culture classique supplée le talent, qu'un imbécile, à force d'apprendre *rosa et dominus*, arrivera à surpasser un homme bien doué. Une intelligence supérieure, sans latin, vaudra toujours infiniment mieux qu'un esprit médiocre amélioré par les langues anciennes. Mais, *toutes choses égales d'ailleurs*, les études classiques produisent un résultat plus profitable qu'aucun système d'éducation organisé jusqu'ici (Résumé du témoignage de M. Moses, professeur de science politique à l'Université de California, p. 717, Cf. *Etudes*, 1919).

Un témoin de la culture française, M. Léon Bérard :

"Le noble but de ces disciplines (latin et grec), leur vertu singulière n'est point de donner à l'esprit de l'élégance avec un certain agrément superficiel, c'est à la solidité, à la mesure du jugement qu'elles importent, car l'éducation humaniste tend essentiellement à favoriser le développement

de l'esprit d'analyse, la vigueur, la précision et la clarté du raisonnement." (*Pour la réforme classique de l'enseignement secondaire*, p. 34.)

Et du même: "Presque tous, y compris les mathématiciens, refusent d'admettre qu'il puisse y avoir de culture vraiment humaine en dehors des disciplines classiques, auxquelles ils gardent un souvenir reconnaissant." (p. 9.)

La savante Allemagne a eu elle aussi ses enquêtes qui ont abouti aux mêmes conclusions.

Terminons cette cueillette par l'Angleterre et l'un de ses plus illustres représentants, M. Stanley Baldwin, qui vient de quitter le pouvoir dans un rayonnement d'apothéose:

"Je crois que ce que m'a donné la culture classique, c'est un sens de la proportion, une échelle des valeurs et un profond respect pour la vérité des mots, qui m'ont été utiles dans toute mon existence. Ajoutez à cela le bonheur constant que j'ai la chance de trouver dans la pure beauté du latin et du grec, et les mille images qu'ils éveillent dans mon esprit, et vous verrez que j'ai contracté envers les études de ma jeunesse des obligations trop fortes pour que je puisse jamais espérer de m'en acquitter. . . . Posséder le sens des proportions, une échelle des valeurs et le respect de la vérité des mots me servit beaucoup à former mon jugement politique. Le sens des proportions m'a aidé à établir l'équation personnelle des individus, distingués ou communs, qui forment la chambre des Communes. Une échelle des valeurs m'a été très utile pour estimer à leur prix les discours et les articles et m'a économisé beaucoup de temps que j'aurais perdu à m'incliner devant les idoles de la foire. Le respect de la vérité des mots m'a été d'un grand secours pour découvrir les mensonges et les équivoques qui se mettent en embuscade dans la végétation tropicale de l'éloquence et j'ai été à même aussi de prendre un plaisir, et sans mélange, à écouter des orateurs qui savent choisir les mots, faire leur phrase, et qui respectent les traditions classiques." (Discours prononcé à l'occasion du Congrès de la Classical Association, à Londres, le 8 janvier 1926.)

Monsieur Baldwin ne fait, du reste, que suivre noblement la tradition humaniste des grands hommes d'Etat anglais: Gladstone, Disraëli, Fox, Pitt, tous imprégnés de classicisme, et l'on sait cependant s'ils furent réalistes!

Et cette constatation m'amène à conclure en signalant un service plus grand encore rendu à l'humanité par l'humanisme classique, un "Utilitarisme" supérieur au simple succès de carrière des étudiants, supérieur parce que plus général et plus élevé.

C'est la *formation des élites*, desquelles surtout dépend le progrès de la civilisation intégrale, celle de l'esprit avant celle du corps, et d'où résulte, en définitive, la perfection et le bonheur de la société.

M. Anatole Leroy-Beaulieu, le grand économiste, disait "qu'après avoir pratiqué beaucoup de peuples étrangers, une même chose l'a frappé chez tous, c'est la supériorité générale et l'étendue d'esprit des hommes qui ont fait leurs études classiques, comparés à ceux qui ne les ont pas faites. Cette culture générale, a peu près de même nature chez tous les peuples, est donc la marque distinctive à laquelle on reconnaît l'élite des différentes nations." (Enquête, Cf. *Etudes*, t. 88.)

Elite les grands hommes d'Etat qui tiennent en mains les destinées de leur pays et qui ne sont dignes de leurs hautes fonctions que lorsqu'ils les exercent seulement dans l'intérêt des peuples et du monde; élite ces savants qui par des études austères et des recherches passionnées font progresser la science de la nature; élite ces philosophes, ces économistes, ces juristes, ces médecins, ces travailleurs intellectuels qui explorent toutes les avenues de l'intelligence; élite ces poètes, ces écrivains, ces artistes qui embellissent la vie humaine par le rayonnement de l'art et les vibrations de la pensée; élite ces humbles et dignes travailleurs dévoués à leur tâche obscure, semblables à la sève de la terre qui fait germer silencieusement la vie nourricière des hommes; élite les héros qui se sacrifient pour la patrie ou pour les autres hommes, leurs frères; élite les saints qui, purifiant et élevant leurs âmes à un idéal de vie supérieure, avec eux élèvent le monde!

Cette élite est mille fois plus nécessaire au progrès et au bonheur de la multitude que le commerce, l'industrie, la finance, les élections, l'alimentation, la construction, l'électricité, l'automobile, la radio, le machinisme, et même les

armements militaires. Car cette élite c'est l'âme humaine en marche vers l'idéal de sa perfection.

L'humanisme classique, dans l'enseignement secondaire, ne produit pas l'élite, mais *prépare l'élite*. C'est là son rôle : un ferment de vie intellectuelle, morale et spirituelle.

Ceux qui ont visité la côte du Pacifique ont pu admirer les pentes boisées des Rocheuses, leurs lacs encaissés dans les rochers comme des perles dans leur écrin, leurs rivières écumeuses précipitant leurs flots pressés d'abreuver les plaines verdoyantes. Ils s'arrêtent surtout à contempler les sommets étincelants, les glaciers éternels.

Mais songent-ils assez que ces splendeurs ne sont pas stériles? Ces sublimes hauteurs, ces pics glacés, ces neiges éblouissantes, ces torrents impétueux, c'est de la beauté qui se résout en fécondité : fécondité des jardins et des champs, force motrice pour l'industrie, richesse, chaleur, lumière, vie!

L'Humanisme, pourvu qu'il ne fasse pas abstraction du divin, joue le même rôle dans la course de l'humanité. Il n'en est pas seulement objet de contemplation esthétique et stérile. Il est, lui aussi, pour l'homme, richesse, chaleur, lumière, vie! Réservoir de vie!

Il nous appartient donc, à nous professeurs et élèves de l'Université du Manitoba, de ne pas laisser s'éteindre ce feu sacré, de sans cesse alimenter cette flamme de l'humanisme classique pour que de nous aussi l'on puisse répéter ce beau vers de Lucrèce que l'Association des Anciens Elèves du Collège de Saint-Boniface a pris pour devise :

Et quasi cursores, vitæ lampada tradunt!

THE LAST APPEAL OF ARISTOPHANES

W. M. HUGILL

WE HAVE no more striking proof of the intrepidity and vitality of the public spirit of Athens in her great age than the content of Old Attic Comedy. As compared with all later comedy it was unique in that it concerned itself so largely with political criticism, and was allowed, even expected to do so, although it was produced under official auspices at state festivals. This characteristic is outstanding in the comedies of its only surviving representative, who continued to criticize government policies throughout the most critical military struggle in which his country ever engaged, a struggle which eventually ruined the country and justified the critic. The criticism of Aristophanes was predominantly negative, but it had a basis of positive conviction, which sometimes found serious expression in his plays. As a wit and as a poet of genius his eminence has always been conceded but the nature and sincerity of his political opinions have not been as fully appreciated. It will be useful, therefore, to consider again part of the evidence for regarding him as the advocate of a definite policy. This paper will deal with his policy only in its last phase.

The *Frogs*, presented at the Lenaeae festival in the winter of 405 B.C., has been called the Swan Song¹ of Aristophanes, not because it is his last play, but because of the extant plays this is the last which exhibits the high level of poetic talent and disinterested patriotism which distinguishes the best of his work. It is also the last play which he produced before the collapse of Athenian naval power, and therefore the last vehicle for that salutary counsel which he believed it to be his peculiar virtue as a comic poet to give to his country for the benefit of Greece.² After the almost total loss of the Athenian

¹Van Leeuwen (ed.), *Ran.*, p. xvi.

²*Ach.* 633-58.

fleet at Aegospotami, command of the sea passed definitely from Athens to Sparta. The final engagement of the war gave a convincing demonstration of the incompetence or treachery of Athenian generals and the success of Persian interference in Greek affairs. The Spartan campaign had been financed by Cyrus. After Aegospotami Aristophanes could not help but conclude that the realization of his ideal of a united front of Athens and Sparta against Persia³ was at last rendered impossible or comparatively remote.

The ideal is not yet abandoned in the *Frogs*. Its author could not foresee that the end was a short six months away. He could only recognize the portents of frustration and defeat which were conspicuous even in the hour of victory. A new ray of hope had been kindled in 406, when Athens won the important naval battle of Arginusae, and when Sparta once more offered peace, but this Athenian advantage was neutralized both by the ruthless ingratitude with which the victorious generals were illegally condemned to death⁴ for failure to rescue their shipwrecked seamen, and also by the uncompromising arrogance with which the Spartan offer was refused.⁵ The madness of this behaviour is an extreme example of the effects of party rancour and demagogic fanaticism which usurped the place of political sagacity during the five years between the restoration of the democracy and the production of the *Frogs*.

During that period, certain political developments had occurred of the sort which Aristophanes was wont to discuss, and for comments upon which we may look in the play. In 425, in the *Acharnians*, he boasted in jest that even the Persian King declared that the side which had the benefit of his poetic criticism would win the war.⁶ In the *Frogs* we find that twenty years later he still had faith enough left to offer counsel, which if followed, might have helped to avert

³An earlier manifestation of this ideal has been fully discussed in Hugill, *Panhellenism in Aristophanes*, Chicago, 1936.

⁴*Xen. Hell.* i. 7.

⁵Aristotle *Ath. Pol.* 34, quoted in schol. *ad Ran.* 1532.

⁶*Ach.* 646-51.

irretrievable disaster. The remarkable thing is that the excellence of that counsel was acknowledged in the most complimentary public tribute to its advocate, but the counsel itself was not acted upon until too late.⁷

Here we are not concerned with the subsequent failure or tardiness of Athens to adopt and profit by the suggestions of her poet-critic. We must try rather to appreciate and explain the motive and intention of those suggestions, for which the play was granted the signal honour of a second production⁸ and its author was crowned with the leaves of sacred olive.⁹ We are told definitely both in the ancient Life of Aristophanes and in two Hypotheses to the *Frogs*, where Dicaearchus is given as the authority, that the admiration aroused by the play, and the honour paid to it were due to its *parabasis*,¹⁰ and to the advice of the sacred chorus about the disfranchised, due, that is, to its political, not to its literary content. It is natural to expect that political comments so generally popular as to be repeated by request before the whole people at a great national religious festival should be free from the spirit of partisanship and filled with patriotism, and these we find upon examination are the chief characteristics of the *para-*

⁷The Decree of Patrocleides (Andoc. i. 77-79) passed during Lysander's siege of Athens (Andoc. i. 73; Xen. *Hell.* ii. 2. 11) practically carried into effect the suggestions of the *epirrhema* of the *Frogs*. Cf. Georg Busolt, *Griechische Geschichte bis zur Schlacht bei Chaeroneia*, (Gotha, 1893-1904), III, 1626.

⁸First and Third Hypotheses to the *Frogs*. Scholars have generally assumed that the second presentation took place at the City Dionysia of 405. See Theodor Kock, *Aristophanis Frösche*³ (Berlin, 1881), p. 17; Th. Zielinski, *Die Gliederung der altattischen Komödie* (Leipzig, 1885), pp. 150, 156; Octave Navarre, *Dionysos* (Paris, 1895), p. 48. Van Leeuwen, *Ran.*, p. viii, suggests a few days after the first performance. J. T. Allen ("On Suidas' Biography of Aristophanes and the Date of the Second Performance of the *Frogs*," *University of California Publications in Classical Philology*, Vol. 11, No. 6 [Berkeley, 1932], pp. 143-51) argues for the City Dionysia of 400. This possibility is denied by Zielinski (p. 150), Van Leeuwen (*Ran.*, p. ix), and Eduard Fraenkel ("Der Agon in den Fröschen des Aristophanes," *Sokrates* [Berlin, 1916], p. 139).

⁹Ancient Life of Aristophanes in Dindorf's *Prolegomena de comoedia XI* (Oxonii, 1838), pp. 33-36.

¹⁰Van Daele (*Les Grenouilles* [Paris, 1928], *Notice*, p. 76) adopts Weil's correction of *parabasis* to *katabasis*, but this "correction" seems to be an example of misapplied ingenuity.

basis. It is, in fact, a plea for amnesty, for the sinking of party hatreds in a national emergency, and a noble declaration that in the public interest the state could not afford to dispense with the services of any of its members.

The *epirrhemata*, as has been pointed out elsewhere,¹¹ is a more elaborate and more explicit statement of the domestic reform suggested by Aristophanes through his heroine in the *Lysistrata*, but the present application is somewhat different. Lysistrata proposed an extension of the franchise, beyond the narrow limitations of the Periclean law of citizenship, to include metics and foreigners whose claims were justified by residence and loyal service. In the emergency before Arginusae, when Athens had surpassed herself in raising her last great fleet to rescue the fleet blockaded with Conon,¹² the proposal of Lysistrata had been more than realized. The statement of the *epirrhemata* together with the fragment of Hellanicus which the scholiast quotes and the account of Diodorus show that full citizenship was promised and given to all, bond or free, who fought with Athens at Arginusae.¹³ This action Aristophanes now warmly approves, as the one sensible thing Athens has done.¹⁴ This one right action and the victory to which it led, should be followed as a model and pattern, and the same policy pursued continuously even after the emergency has passed. The principle is emphatically and unequivocally laid down that anyone fighting in the Athenian naval service is entitled to full and complete citizenship.¹⁵ The principle is unmistakably democratic, and quite incompatible with the theory that Aristophanes preferred the limited franchise of the constitution of the Five Thousand. He plainly says that the citizens should be made equal, and that

¹¹Hugill, pp. 50-51.

¹²Xen. *Hell.* i. 6. 24; Busolt, *G.G.*, III, 1590; *CAH*, V, 355-56.

¹³*Ran.* 693-94, 701-2; schol. *ad. Ran.* 693; Diodorus xiii. 97; Busolt, *G.G.*, III, 1590; *CAH*, V, 356-57. Busolt (*G.G.*, III, 1038, n. 2 and *Greichische Staatskunde*: Zweite Hälfte bearbeitet von Heinrich Sweboda [München, 1926], p. 947) holds that the Plataeans in 427 were not admitted to the *phratrides*. The slaves who fought for Athens at Arginusae were given *sympolity* with the Plataeans at Scione.

¹⁴*Ran.* 695-96.

¹⁵*Ran.* 700-702.

no one in the city should be *atimos*, or restricted in his citizen rights.¹⁶

On the other hand, he highly disapproved of the tactics followed by the democratic leaders since their return to power after the victory of Cyzicus. They had adopted a policy which in our day would be characterized as a dictatorship of the proletariat. On the French and Russian analogies, the period has been called by some commentators "the terror",¹⁷ a name which derives some authority from Aristophanes' own phrase advocating the removal of "fears".¹⁸ The Decree of Demophantus calling upon the whole people to swear hostility to anyone discovered to be subverting the democracy or taking office under another form of constitution, and to swear to slay such enemies of democracy and to confer honour and immunity upon their slayers,¹⁹ though nominally a revival of an old democratic formula, in practice marked the recrudescence of sycophantic tyranny.²⁰ The Decree suggested a plausible motive for the persecution of so many victims, that, as one of them expressed it, more than a thousand persons were charged with belonging to the Four Hundred.²¹ So far from belonging to the Four Hundred he claimed that he himself had not even been listed among the Five Thousand. We learn from Andocides that the unfortunate soldiers "who had remained in the city", as he puts it, "in the time of the tyrants," were deprived of the right of becoming members of the senate or of speaking in the assembly. He enumerates a great variety of other restrictions by which the citizenship of many persons was limited and diminished.²²

¹⁶*Ran.* 692.

¹⁷A. Couat, *Aristophane et l'ancienne comédie attique*³ (Paris, 1902), p. 124; Maurice Croiset, *Aristophanes and the Political Parties at Athens*, trans. Jas. Loeb (London, 1909), p. 156.

¹⁸*Ran.* 688.

¹⁹Andoc. i. 96-98; *CAH*, V, 349.

²⁰Lysias xxv. 25-26; xx. 7, 15, 19; Busolt, *G.G.*, III, 1542; Eduard Meyer, *Geschichte des Altertums* (Stuttgart and Berlin, 1884-), IV³, 611.

²¹Lysias xxx. 7-8.

²²Andoc. i. 75-76; *CAH*, V, 351-52.

The difference between the suggestion of the *epirrhema* of the *Frogs* and the simile of *Lysistrata* is therefore merely a matter of application, not of principle. The privileges which in the earlier play the reformer sought for the metics and aliens of proven loyalty, he now demands for the scions of the old Attic stock, whose political error in preferring oligarchy²³ should not blot out the services of a lifetime spent in supporting public burdens. He deprecates the partisan pride which, while rewarding the valour of slaves, denies their birthright to Athenians, and argues that an amnesty is justified by the emergency and will be vindicated in the judgment of posterity.²⁴ His motive is neither an indiscriminate wish to please, nor an invertebrate political neutrality. Throughout the passage, and indeed throughout the play, repetition emphasizes the basis upon which citizenship should be granted, and the condition upon which it should be enjoyed. The slaves have merited the great privilege because they fought in the sea-fight.²⁵ The disfranchised should have their disabilities removed because they and their fathers fought in many sea-fights.²⁶ Finally, all who fight the sea-battles of Athens deserve the name and right of Athenians.²⁷ This is the policy of a man who believes in Athenian naval hegemony.

In the *antepirrhema*, Aristophanes returns to a favourite subject of criticism. The transition is from effect to cause. The mistakes of his country are due to bad leadership. In his early plays, he had exposed the evil by violent personal abuse of Cleon. Later, in the *Wasps*, he had presented an elaborate argument to prove that the citizens, sound at heart, were the deluded tools of demagogic deception. His treatment in the *antepirrhema* of the *Frogs* is very similar. It is a general criticism, enlivened by vivid metaphor and simile, to the effect that the city is suffering from degraded statesmanship as well as debased currency. The inequalities of which he has

²³*Ran.* 689-91.

²⁴*Ran.* 703-5.

²⁵*Ran.* 33, 190-91, 693.

²⁶*Ran.* 697-98.

²⁷*Ran.* 701-2.

just suggested the removal are the work of demagogic irreconcilables like Demophantus. The proposals of peace which Sparta had twice proffered, once after Cyzicus and once again after Arginusae, were rejected with contumacy at the instigation of Cleophon.²⁸ The generals who conquered at Arginusae were illegally condemned by the people under the influence of passion which Archedemus, Callixenus, and other demagogues had fanned and which the repentant people later turned against their deceivers.²⁹ With these notorious examples of recent policy in mind, and perhaps riding the wave of repentance and reaction which followed the rash and cruel treatment of the generals, Aristophanes warns the people against red-headed foreign rascals and upstarts³⁰ like Archedemus,³¹ Cleophon,³² and Cleigenes,³³ and urges them to give full weight in their counsels to the noble, just, and temperate citizens of the better classes denoted by the phrase *kaloi kagathoi*.³⁴

The apt and famous simile in which this plea is pressed was suggested by the monetary measures to which Athens was forced by the crisis of Arginusae and an empty treasury. The standard silver coinage of Athens had come to an end. Since the occupation of Deceleia by Agis, it had not been possible to work the mines at Laurium.²⁵ To obtain new money two steps were taken. Gold coins were obtained by melting down

²⁸For the rejection of Sparta's proposals after Cyzicus see Diodorus xiii. 52-53; schol. on Euripides *Orestes* 371, 772; Justin v. 4. 4; Busolt, *G.G.*, III, 1533-38. Cf. Grote's defence of Cleophon in *A History of Greece* (London, 1869), VII, 363-67 (chap. 63). For the rejection of Sparta's proposals after Arginusae, see Aristotle *Ath. Pol.* 34; schol. *ad Ran.* 1532; Busolt, *G.G.*, III, 1611; *CAH*, V, 358-59. Even after Aegospotami when Athens was besieged, Cleophon persisted in his opposition to peace with Sparta (*Lysias* xiii. 8). The description of his violence in *Aeschines* ii. 76 is referred to the latter occasion by Van Leeuwen (note *ad Ran.* 678) but to the negotiations after Arginusae by Holden (*Onomastikon Aristophaneum* [2d ed.; Cambridge, 1902], s.v. "Kleophon").

²⁹*Xen. Hell.* i. 7; cf. *Ran.* 1086.

³⁰*Ran.* 730-33.

³¹*Ran.* 421, 588.

³²*Ran.* 678, 1504, 1532.

³³*Ran.* 709.

³⁴*Ran.* 719, 728.

²⁵*Thuc.* ii. 55; vi. 91. 7.

the sacred dedications of the temples,³⁶ and a debased coinage was made of bronze plated with silver.³⁷ In forceful terms, Aristophanes points out that *kaloi kagathoi* have become as rare in active politics as the good old silver coinage in Athenian foreign trade, although they are the gold and silver of the citizens.³⁸ The currency in use in politics is the worthless brazen sort, just as in trade it is the new-fangled, debased bronze coinage.³⁹ His conclusion is an urgent recommendation that the better citizens be put into circulation again, or rather that their services be put at the full disposal of the state. There is no reason to think this the advice of an advocate of limited democracy or moderate aristocracy.⁴⁰ The language of the poet is given its full value if we interpret it merely as a recommendation that those who now suffer disabilities because they enjoyed privileges under the Four Hundred or Five Thousand, should regain the full rights of the franchise, such as membership in the council and speech in the assembly. He sums up the gist of his remarks in one terse phrase of which the literal translation is: "Use the good again."⁴¹ The unstable proletariat so easily and fatefully swayed by the

³⁶Schol. *ad Ran.* 720. This melting and minting of temple properties extended over the two calendar years of 406-405 and 405-404 according to W. S. Ferguson, *The Treasurers of Athena* (Cambridge, Mass., 1932), p. 94.

³⁷Schol. *ad Ran.* 725. The issue of bronze coins began in 406-405, and the debased currency was demonetized in or before 393 (*Eccl.* 821 f. Cf. Ferguson, pp. 88, 95).

³⁸*Ran.* 719-25. Cf. Ferguson, p. 87: "In January, 405 B.C., the gold currency was described as *kainon* and the silver as *archaion*, and both are held up as models in contrast with the *ponera chalkia* recently struck." This is Rogers' explanation (note on *Frogs* 718-37). Van Leeuwen holds that the new gold coinage and the bronze are the same, the gold being adulterated with bronze, and that both correspond to the bad citizens (notes *ad Ran.* 718, 720). Rogers shows that there is no numismatic evidence for Van Leeuwen's view.

³⁹*Ran.* 725-33.

⁴⁰Cf. Tucker (ed.), *Frogs*, p. xxi: "His avowed aims are peace, democracy on just principles, and a general wiping of old jealousies off the slate. Yet it is impossible to read him without perceiving that he himself can show no fairness towards the popular leaders, that he is only restrained by prudential reasons from proposing a virtual oligarchy, and that he actually goes near suggesting it."

⁴¹*Ran.* 735.

demagogues badly needed ballast, and the *kaloi kagathoi* would supply the element of stability and responsibility.

It is not suggested that their function should be a passive one. The idea of Aristophanes can be well illustrated by the account in Thucydides of the Mytilenaeon debate⁴² during which the people were first swayed by the fierce bias of the demagogue Cleon, and later were converted to the calm reasoning of the moderate Diodotus. It is leaders of the type of Diodotus whom Aristophanes would have them use. When the chorus says: "But now, change your ways, ye fools!"⁴³ Aristophanes does not mean "change your constitution", but rather "change your habit of listening to the more violent adviser, and obey the speaker who gives the best advice."

It is possible, but not necessary, to suppose that the choral recommendation may be given a still wider interpretation, including the suggestion that, in the case of such magistrates as are elected, a better choice might be made. We have learned in the *Acharnians* that Aristophanes is neither deeply convinced of the infallibility of elections,⁴⁴ nor much impressed with the efficiency of some generals.⁴⁵ In this he is supported by his fellow comedian, Eupolis, who says:

"This was not the way we aged men lived formerly. First of all, the generals our city employed came from the greatest houses, men prominent in wealth and birth, to whom we prayed as if they were gods, as indeed they were; so that our affairs were safe. But to-day, when the fit takes us, we go to war electing scoundrels as our generals."⁴⁶

The *antepirrhema* is a denunciation of demagoguery in general. Such personal stigmas⁴⁷ as are inflicted upon particular culprits are of sporadic occurrence in the play. The *strophe* of the *parabasis* is devoted to Cleophon's Thracian extraction.⁴⁸

⁴²Thuc. iii. 36-50.

⁴³Ran. 734.

⁴⁴Ach. 598, 607.

⁴⁵Ach. 1078.

⁴⁶Frag. 117, Kock, CAF, I, 288-89, trans. in Gilbert Norwood, *Greek Comedy* (London, 1931), p. 188. Cf. also, Eupolis frag. 205, Kock, CAF, I, 314, trans. Norwood, p. 196.

⁴⁷Ran. 1511.

⁴⁸Ran. 678-83.

The *antistrophe* singles out Cleigenes with a description of his opposition to peace and his tendency to drunkenness,⁴⁹ which bears a remarkable resemblance to the Aristotelian picture of Cleophon,⁵⁰ to whose faction he undoubtedly belonged.⁵¹ If he is identical with the secretary mentioned in the Decree of Demophantus,⁵² he is an example of the type of citizen whom Aristophanes describes as the product of Euripidean culture: "And then as a result [of the content of Euripides' plays] our city has been filled with under-secretaries and buffoons and demagogue-monkeys, who are continually deceiving the people."⁵³ Cleophon's swash-buckling propensities are the last thought which the poet leaves with his audience. The chorus leaves the stage with the parting shot: "Let Cleophon, and any other of his band that is like-minded with him, go and fight in the land of his fathers [i.e., Thrace]."⁵⁴ On his return to earth, Aeschylus is entrusted by Pluto with gifts for Cleophon, Nicomachus, and other demagogues, which the scholiast believes to be ropes to hang themselves with; at any rate, a hasty summons is issued for them to appear below ground.⁵⁵ We know that Cleophon was not long in obeying the summons, for he perished in the *stasis* of the following year,⁵⁶ and Nicomachus was instrumental in bringing about his death.⁵⁷ Nicomachus belonged to the despised class of under-secretaries.⁵⁸ More despicable, perhaps, was the blear-eyed Archedemus,⁵⁹ who led the attack on Erasinides,⁶⁰ one of the

⁴⁹Ran. 707-17.

⁵⁰Aristotle *Ath. Pol.* 34.

⁵¹Cf. Van Leeuwen's note *ad Ran.* 709: "Id unum ex Aristophanis verbis constat eum paci esse adversatum, Cleophontis igitur partibus addictum . . ."

⁵²Andoc. i. 96. Georges Dalmeyda (*Andocide Discours* [Paris, 1930]) has adopted Lipsius' correction "Cleigenes" for the manuscript "Cleogenes." Cf. IG, I², 304.

⁵³Ran. 1083-86.

⁵⁴Ran. 1532-33.

⁵⁵Ran. 1504-14 and scholia.

⁵⁶Xen. *Hell.* i. 7. 35; Lysias xiii. 12.

⁵⁷Lysias xxx. 10-12.

⁵⁸Lysias xxx. 28. For the popular estimate of under-secretaries, cf. also Demos. xix. 237, xviii. 127. Cf. *Eq.* 1103, 1256, and scholia.

⁵⁹Ran. 588.

⁶⁰Xen. *Hell.* i. 7. 2.

unfortunate commanders at Arginusae. Archdemus is mentioned as a demagogue and an object of ridicule by the sacred chorus of the Initiated.⁶¹

The objectionable types are not all to be found among the extremists. Archdemus was not as shrewd a plotter as Theramenes, upon whom rests the greatest guilt for the revolting execution of the generals.⁶² Aristophanes anticipated Critias by almost two years in publicly pillorying the opportunism of Theramenes.⁶³

"Nay but to veer, with expedition,
And ever to catch the favouring breeze,
This is the part of a shrewd tactician,
This is to be a—THERAMENES!"⁶⁴

And so Theramenes, whose quest of the political *via media* earned him the nickname of "Cothurnus" and the cup of hemlock from the realist Critias,⁶⁵ and admiration and praise from theorists like Aristotle,⁶⁶ is condemned for his methods by Aristophanes and named as the most notorious disciple of Euripides.⁶⁷

Another member of the Aristophanic rogues' gallery seems to have had some affiliation with the middle party of Theramenes.⁶⁸ Adeimantus too is summoned by Pluto.⁶⁹ He had been associated as general with Alcibiades in the latter's brief dictatorship,⁷⁰ and had been elected general again in the place

⁶¹*Ran.* 421.

⁶²*Xen. Hell.* i. 7. 4. 8.

⁶³*Xen. Hell.* ii. 3. 31.

⁶⁴*Ran.* 538-41, trans. Rogers.

⁶⁵*Xen. Hell.* ii. 3. 56.

⁶⁶Aristotle *Ath. Pol.* 28. Cf. Thuc. viii. 68, 91, and for Thucydides' estimate of the constitution of Theramenes, viii. 97. For Theramenes' statement of his own political faith, cf. *Xen. Hell.* ii. 3. 47-49.

⁶⁷*Ran.* 967. Couat, p. 175, says: "Le silence d'Aristophane au sujet des autres chefs de la conjuration des Quatre-Cents prouve qu'il reprochait à Thérémène, non sa complicité avec les conjurés, mais sa desertion." It is not correct to attribute to Aristophanes silence about the other chiefs of the conspiracy. Cf. Hugill, pp. 41-46.

⁶⁸B. W. Henderson (*The Great War between Athens and Sparta* [London, 1927], pp. 481, 490-91) regards Adeimantus as a member of the middle party.

⁶⁹*Ran.* 1513.

⁷⁰*Xen. Hell.* i. 4. 20-21; Diodorus xiii. 69; Plut. *Alc.* 35. Cf. Busolt, *G.G.*, III, 1561-63 and notes.

of those dismissed after Arginusae.⁷¹ The two most interesting tales about him, however, have to do with events immediately subsequent to our play. In his favour is the fact that he opposed a decree of the people by which the generals were instructed to cut off the right hands of such prisoners as they captured if they won the forth-coming naval battle. For this he alone of the Athenians was spared by Lysander after Aegospotami.⁷² On the other hand, a rumour was current that the defeat of Aegospotami was due to his treachery, and probably it was on this ground that he was later accused by his colleague Conon.⁷³ We do not know the cause of Aristophanes' enmity against him at this time, but the poet's attitude to both Theramenes and Adeimantus shows that he was capable of detecting faults in others besides extreme democrats. His reference to Phrynichus⁷⁴ is too brief and impersonal to betray any party leaning. The name stands not so much for a party as for trickery and intrigue. The motive for criticism in the *Frogs* is clearly stated in the choral anapaests. So far from being prompted by party prejudice of any kind, it arises from a deep-seated distrust and disapproval of all those who fail to check "hateful *stasis*" and to be "even-tempered towards their fellow citizens."⁷⁵

Aristophanes illustrates his point of view with a forceful and, at the same time, tactful description of the introduction of *stasis*⁷⁶ into Hades. What happens among the dead need not be taken as a direct attack by any living group, but should be taken to heart by all.

"When Euripides came down, he began to hold forth to the clothes-thieves and cut-purses and parricides and burglars, of whom there is a vast throng in Hades; and they, hearing his contradictions and twistings and turnings, went

⁷¹Xen. *Hell.* i. 7. 1.

⁷²Xen. *Hell.* ii. 1. 32.

⁷³Xen. *Hell.* ii. 1. 32; Lysias xiv. 38; Demos. xix. 191. Cf. Isoc. v. 62. Busolt, *G.G.*, III, 1623, gives references to other discussions of the treachery of Adeimantus, pro and con.

⁷⁴*Ran.* 689.

⁷⁵*Ran.* 359.

⁷⁶*Ran.* 760.

stark mad and considered him to be a paragon of wisdom. Then elated [with their admiration] he laid claim to the throne where Aeschylus sat."⁷⁷

The imputation to Euripides of responsibility during his lifetime for filling Athens with undesirable demagogue-monkeys, and after death, for using the same class to seize the tragic throne in Hades, shows the connection in thought between the direct political propaganda of the *parabasis* and the literary contest of the *agon*. The modern separation between art and politics did not exist for the Greeks. Their dramatic art was communal. Not only was the contribution of his means for the suitable production of the play an obligatory public service required of the *choregus*,⁷⁸ but the poet himself was held to strict account for the sentiments expressed in his verses. Aristophanes was honoured by the state for his *Frogs* and threatened by Cleon for his *Babylonians*, on political, not literary grounds.⁷⁹ He applies the same standard to Euripides and Aeschylus, and while amusing himself and entertaining his audience with much clever and just appraisal of their literary qualities, he is most seriously interested in the work of these tragedians as an elevating or a demoralizing force in the community.⁸⁰

The fame which the *Frogs* has enjoyed in modern times is based more upon the brilliant criticism of the purely artistic features of the work of Aeschylus and Euripides, which bulks so large in the play. It is probably through over-emphasis upon these features, and the great interest which this criticism has aroused, that the play as a whole has sometimes been subjected to undeserved censure for lack of unity. The question of unity centres about the relation between the motive of

⁷⁷Ran. 771-77.

⁷⁸Haigh, A. E., *The Attic Theatre* (3rd. ed., Oxford, 1907), p. 53. Lysias xxi. 1-5.

⁷⁹Ach. 377-82.

⁸⁰Cf. J. T. Sheppard, "Politics in the *Frogs* of Aristophanes," *Journal of Hellenic Studies*, XXX (1910), p. 250: "Here, however, I need hardly labour the point that in spite of certain shrewd and pertinent thrusts, the criticism *qua* literary criticism is for the most part ludicrous and meant to be ludicrous; and that the seriousness, which is felt beneath the fun, rests on a contrast ultimately religious and moral."

Dionysus and the contest between the tragic poets. The motive of Dionysus seems to have changed between his descent to Hades in quest of Euripides and his return to Athens with Aeschylus, that is, during the time when he was presiding over the poetic contest. But the contest is twofold and it is not at once clear what influence each of the two parts exerted upon the change of motive. For convenience of distinction, the two parts of the contest may be called the poetic debate and the political catechism. Ostensibly the debate ends in a drawn battle and the contest is decided upon the answers to the catechism alone. Failure to appreciate the connection between the debate and the catechism, or indeed between the debate and the rest of the play, has led some critics to suppose that the debate has been bodily inserted into the play and is not homogeneous with it.⁸¹ Failure to understand the real import of the answers to the catechism and to see in them any justification for Dionysus' decision has led other critics to suspect the authenticity of those answers, and even to wonder whether the political catechism may not be an interpolation *in toto*.⁸² It may be conceded that the text has been contaminated in places, but the presence of some minor imperfections has led to unjustified scepticism with regard to other passages whose only fault is that they have been misunderstood.

In the first place it should be pointed out that the idea of staging a debate upon artistic merits between different candidates for resurrection forms no part of the original plan of Dionysus. He goes in search of that poet for whom his passion craves,⁸³ and although he proves fickle in regard to the object of his affection,⁸⁴ he is consistent in leaving the decision to sentiment rather than to considerations of technique. The original motive of his errand is the satisfaction of his longing,

⁸¹For various opinions about this part of the text see Van Leeuwen, *Ran.*, pp. ix-x; Rogers (ed.), *Frogs*, pp. xv-xviii; Fraenkel, *Sokrates*, 1916, pp. 134-142. Walther Kranz, *Hermes*, LII (1917), 584-91.

⁸²Van Leeuwen, *Ran.*, pp. xi-xii, and notes *ad loc.* Interesting attempts to discover two ancient editions in this passage are made by Tucker (1906) and Radermacher (1922) in their editions.

⁸³*Ran.* 59, 66.

⁸⁴*Ran.* 66-67 1468-73.

and he ends his quest by taking back "him whom his spirit desires." Herein lies the unifying correspondence between the motive for the descent in the early part of the play and the motive for the choice in the final scene. Dionysus' part in arbitrating the literary debate is an unpremeditated act of grace in acceding to the request of the disputants to settle⁸⁵ a purely infernal matter, the poet-laureateship of Hades.⁸⁶ It is true that he fails to decide the issue, which is indeterminate on artistic grounds; but he is rescued from the impasse by Pluto acting as a *deus ex cathedra*. It is also true that he has been so delighted and impressed by the display of the two debaters that he almost forgets the purpose of his visit and has to be reminded of it by Pluto.⁸⁷ When with an effort, he does bring his mind back to his errand, we find that his original motive has been modified by the arguments which he has heard in the interval. In the beginning he is filled with an uncontrollable desire for a clever poet, a truly creative poet, capable of uttering a noble word.⁸⁸ After the debate his more deliberate aim is to take back the poet by whose teaching the city may be saved and may celebrate the choruses in safety.⁸⁹

In the second place, the comparison of technical ability⁹⁰ is not the important aspect of the debate, and the refusal of Dionysus to give a decision⁹¹ is significant of the attitude of Aristophanes. From the technical point of view, the honours are fairly evenly divided between the contestants.⁹² Neither is it certain, as some assume, that Aristophanes' parodies of Euripides are definitely intended as an expression of condemnation or disapproval. His parodies are too frequent, too clever, and too enthusiastic to be inspired by nothing but a spirit of indignation and resentment. It is far more likely that Gilbert Murray is correct in the opinion that Euripides would have

⁸⁵Ran. 810-11.

⁸⁶Ran. 768-86, 1515-18.

⁸⁷Ran. 1414.

⁸⁸Ran. 71, 96-97.

⁸⁹Ran. 1418-19.

⁹⁰Cf. Ran. 770, 780, 786, 831, 862.

⁹¹Ran. 1411-13.

⁹²Cf. Croiset, p. 151.

regarded the parodies of himself in the *Thesmophoriazusae* as a tremendous compliment.⁹³ Similarly, in the *Frogs* the lesson is too well learned to prove unmixed dislike on the part of the pupil.⁹⁴ There is little doubt that Aristophanes consciously profited in the development of his art from the pioneer work of Euripides.⁹⁵ But the sympathy between the two men ended there. It was an artistic sympathy and was more than counterbalanced by a far more fundamental antipathy.

The real reason for the conscientious, consistent and unrelenting hostility of Aristophanes to Euripides is to be found in the moral influence⁹⁶ of the latter's poetry which had the same general effect as the dialectic of Socrates,⁹⁷ in stripping orthodoxy and tradition of all authority, and leaving society with no better standards than such as might be evolved from the fallible human intellect.⁹⁸ The treatment of this question and the exposition of the difference between the moral influence of the work of Aeschylus and that of the work of Euripides is the important part of the debate. The discussion extends through some two hundred lines, in which the poetry of Aeschylus is shown to inculcate nobility of mind, public spirit and martial patriotism,⁹⁹ while that of Euripides stimulates democratic fluency, rhetorical dexterity, and mental subtlety.¹⁰⁰ Different as are the results obtained, the debaters

⁹³Aristophanes, *A Study* (Oxford, 1933), pp. 107, 117. Cf. E. E. Sikes, *The Greek View of Poetry* (London, 1931), p. 46.

⁹⁴Cf. J. T. Sheppard in *CAH*, V, 143: "The flexibility, lucidity, and grace of his own style, the quality of his lyrical inspiration, as well as innumerable happy reminiscences, and even many of his sober judgments, reveal him as a pupil, and not merely a student of the tragic poet."

⁹⁵Cf. A. W. Pickard-Cambridge's discussion of the Aristophanic prologue (*Dithyramb, Tragedy and Comedy* [Oxford, 1927], p. 311); schol. on Plato, *Apology*, 19c; Murray, pp. 118-19: "The whole intellectual level of the audience had risen; Aristophanes, the intellectual farce-writer, has profited by it; and the cause of the whole improvement has been that 'new learning' of which Euripides is the champion."

⁹⁶Cf. S. H. Butcher, *Aristotle's Theory of Poetry and Fine Art* (London, 1932), pp. 219-20; R. C. Jebb, *The Growth and Influence of Classical Greek Poetry* (New York, 1893), p. 204. Cf. Croiset, pp. 151-52.

⁹⁷*Ran.* 1491.

⁹⁸*Ran.* 971-79.

⁹⁹*Ran.* 1013-44.

¹⁰⁰*Ran.* 937-79.

nevertheless agree upon the two principles involved: first, that the function of the poet is to make better citizens;¹⁰¹ second, that his poetry stands judged by the kind of citizen it produces.¹⁰² As a typical example of the product of his art, Aeschylus claims the hero Lamachus,¹⁰³ and Euripides, the versatile Theramenes.¹⁰⁴

It thus appears that the central thought of the whole literary discussion is the didactic function of art, an idea of almost universal acceptance in the classical period.¹⁰⁵ The function of the debate in the play is to clarify and expound this principle. And so, when the point has been sufficiently explained and amply illustrated, naturally and obviously the succeeding step is for Dionysus to put the exponents of the principle to the proof by means of the catechism on current politics. According to the unanimous definition of the contestants, the better poet will be he who can do most to ameliorate the condition of his fellow citizens in the present emergency. Aeschylus offers the clearest and most satisfactory counsel and is thereupon awarded the decision. Hence, the literary debate and the political test are shown to be in logical sequence; the unity of the plot is vindicated; the last scene is an integral part of the play.¹⁰⁶

The examination of Aeschylus and Euripides in practical politics is brief but pointed. Two questions are propounded. The candidates are first asked whether or not they advise the recall of Alcibiades. Euripides elicits the information that Athens longs for him, hates him, and yet wishes to have him back,¹⁰⁷ in short is torn between two opinions, with perhaps a preponderance in favour of his recall. In comparison with his daring and scurrilous attacks upon other persons, the for-

¹⁰¹*Ran.* 1009-10, 1054-56.

¹⁰²*Ran.* 964, 1013.

¹⁰³*Ran.* 1039.

¹⁰⁴*Ran.* 967.

¹⁰⁵*Ran.* 391-95, 686, 1419, 1487, 1502, 1530 in addition to passages already cited. Lucian *Anacharsis* xxii. Cf. the excellent chapter on "Aristophanes", in Sikes.

¹⁰⁶Sheppard, *Journal of Hellenic Studies*, XXX (1910), 249. "I venture to think that in the politics of the *Frogs* we have a clue to a higher, more artistic unity than can be found by the analysis of the structure."

¹⁰⁷*Ran.* 1425.

bearance, discretion, and reserve of Aristophanes in regard to Alcibiades are truly remarkable.¹⁰⁸ The present is one of the few passages in his extant plays in which Alcibiades is mentioned by name. Perhaps the poet's feelings on this subject were as contradictory and confused as those he attributes to his fellow citizens. It is no easy question which Aeschylus and Euripides are called upon to answer. Euripides takes a purely negative attitude. He points out the faults of Alcibiades and expresses distrust and hatred of him.¹⁰⁹ Aeschylus' opinion is rather more just. He recognizes in the first place that Alcibiades is largely a product of his native environment, a prodigy of leonine ambition whetted in the sharp school of demagogic politics. It would have been better no doubt if his appetite for power and preference had been tempered and curbed when the lion was still a whelp, but now that he is full grown, it is better that he should be for Athens than against her.¹¹⁰

Hearing these two views, the judge professes that he is yet unable to decide between the candidates, that one has spoken wisely, the other clearly.¹¹¹ In this remark of Dionysus, which is itself not very clear,¹¹² Aristophanes seems to preserve his caution in regard to Alcibiades. He vouchsafes no more than a hint, but the hint suggests that the censure of Euripides is deserved, and that the advice of Aeschylus is more helpful and practical. We may infer that Aristophanes distrusted Alcibiades, but that he recognized his great ability, and felt that Athens had need of it and should avail herself of it.¹¹³

¹⁰⁸Cf. Couat, pp. 177-186; Henderson, p. 474.

¹⁰⁹*Ran.* 1427-29.

¹¹⁰*Ran.* 1431-32. In *Lysias* xiv. 16 the suggestion is made that Alcibiades should have been put to death when first found guilty. Valerius Maximus vii. 2. 7 interprets Aristophanes as I have done.

¹¹¹*Ran.* 1434.

¹¹²Meineke emends *saphos* to *sophos* at the end of line 1434, thus effectively bringing out the amusing perplexity of Dionysus. But the emendation is quite unnecessary. As Merry (note on *Progs* 1434) points out, lines 1445 and 1451 show that *sophos* of line 1434 applies to Euripides and *saphos* to Aeschylus.

¹¹³Thucydides (vi. 15) says that the fear of Alcibiades and hostility felt towards him on the part of the masses, which led to his disgrace and retirement after Notium, brought about the ruin of the city. Cf. Couat, p. 184. This seems to agree with the hints of Aristophanes.

Aristophanes, like Thucydides, may have admitted to himself that, on one occasion at least, Alcibiades had acted in a manner befitting a statesman and a patriot. When the soldiers in Samos had become so enraged at reports from Athens of the tyranny of the Four Hundred, that they would have sailed at once to attack the Peiraeus, Alcibiades alone could and did restrain them, insisting that the safety of their city depended upon reconciliation and the end of factional strife. He further expressed his approval of the steps taken by the Four Hundred "with a view to economy, so that the soldiers in the field might have better maintenance."¹¹⁴ By this action, says Thucydides, he "seems then in an eminent degree, and more than anyone else, to have benefited the state."¹¹⁵ The position attributed to Alcibiades on this occasion by Thucydides is an epitome of the policy advocated by Aristophanes in the *Frogs*.

If the warnings against tyranny expressed by Aristophanes in the *Thesmophoriazusae*¹¹⁶ were aimed at the exiled Alcibiades in 412-411 when his negotiations with the Athenian fleet seemed like the dictation of a Persian satrap,¹¹⁷ his subsequent repudiation by the satrap Tissaphernes and his victories over the allied forces of Persia and Sparta deprived him of further opportunity for treachery and committed him to the Athenian cause. Although his past could not be forgotten, and rendered him undeserving of trust, it seemed safe to employ him in the present; and the real genius which he had formerly shown in guiding Athens past danger to safety and success made his services indispensable to her now. The disgrace, moreover, which had recently made him an exile once more, because of the disobedience and defeat of his subordinate, was undeserved. He was entitled to the same indulgence which the poet in his *epirrhema* asked for other political victims. The inclination which Aristophanes shows in the *Frogs* to change from hostility to toleration of Alcibiades is no doubt due in part at least to the latter's change from being a friend to becoming

¹¹⁴Thuc. viii. 86. 6, trans. Smith. Cf. Thuc. viii. 82.

¹¹⁵Thuc. viii. 86. 4, trans. Smith.

¹¹⁶Thesm. 332-71.

¹¹⁷Thuc. viii. 56.

a foe of Persia. By restoring the morale of the Athenian navy and renewing its superiority over the forces of Persia and her ally, Alcibiades had to that extent aided the Panhellenic cause.

The curious mistake of Valerius Maximus¹¹⁸ in referring to this oracular utterance about the lion's whelp as the saying of Pericles may be explained by his confusing the *Frogs* of Aristophanes with the *Demes* of Eupolis,¹¹⁹ where Pericles was represented as being brought up from the lower world for questioning.¹²⁰ But the fact that Pericles was catechized in the *Demes* of Eupolis is no reason for denying the similar experience of Aeschylus in the *Frogs*. The speech in the *Frogs* is quite Aeschylean as is shown by its verbal likeness to a passage in the *Agamemnon*¹²¹ where Paris is described by the same figure as the offspring of a lion. The similarity between the characters of Paris and Alcibiades and their similar relationships to their respective cities is sufficient to justify such a master of parody as Aristophanes in representing Aeschylus as speaking of Alcibiades as he had once written of Paris. Furthermore, the Athenian attitude towards Alcibiades in 405 was a question of such great national importance¹²² that nothing could be more appropriate for Dionysus to ask Aeschylus and Euripides than their views on this matter. Unfortunately the suggestion of contamination, which has arisen by inference out of the erroneous reference of Valerius Maximus to the verses containing Aeschylus' dictum on

¹¹⁸vii. 2. 7.

¹¹⁹This is an old idea among commentators. Fritzsche (note on *Frogs* 1431) traced it back to Meineke, Lobeck, and Stüvern. Wilamowitz-Moellendorf, *Aristoteles und Athen* (Berlin, 1893), I, 180-81, n. 84, says: "die verwechselung der Frösche und die Demen ist unverkennbar." He thinks that the contamination of the text of the *Frogs* with that of the *Demes* resulted because the passage in the *Frogs* was so similar to a passage in the *Demes*. Among recent editors Van Leeuwen (note *ad Ran.* 1431) has most inclined towards regarding the passage in the *Frogs* as Eupolidean. Radermacher (ed. *Frösche*, p. 346) argues well that this is unlikely because the Alexandrian scholars failed to notice it, although they had both plays to compare.

¹²⁰Plut. *Per.* 3, 24.

¹²¹717 ff.

¹²²Cf. Ferguson, *CAH*, V, 354: "Had Athens been able to trust him he might have saved her Empire and destroyed her liberty." Cf. Thuc. vi. 15.

Alcibiades, has not been confined to these verses, but has been transferred, as we shall see, to another passage to explain difficulties there.

Undecided as to his choice on the basis of the answers to the first question, Dionysus further asks what advice each candidate has to offer concerning the salvation of the city.¹²³ Certain parts of Euripides' reply consist of nonsense, marked as spurious¹²⁴ by Aristarchus and Apollonius and which we may neglect as it has no political significance. The relevant part of his reply does little more than echo Aristophanes' own views set forth in the *antepirrhemata*. He says: "If we should withdraw our confidence from those citizens in whom we now trust, and make use of those whom we do not use, perhaps we might be saved."¹²⁵ This is very good as repetition and corroboration, lending emphasis and support to the *antepirrhemata*,¹²⁶ but the remark which follows is an expression of opportunism worthy of the teacher of Theramenes. "If now, at any rate, we are unfortunate in our reliance on these men, how could we fail to be saved, if we took the opposite course?"¹²⁷ This principle of political action is the kind of "trial and error" empiricism which is all too commonly responsible for changes of government in democratic communities. It is often expressed in the trite comment, "It is time for a change." But so far from being a serious suggestion for saner statesmanship, it is either clever flippancy or a counsel of despair. Whether meant flippantly or not, it calls forth a flippant comment: "Is this *your* cleverness or Cephisophon's?"¹²⁸

Before answering in his turn, Aeschylus, who has been dead

¹²³Ran. 1435-36.

¹²⁴Ran. 1437-41, 1452-53.

¹²⁵Ran. 1446-48.

¹²⁶This is Croiset's view (p. 161), but he thinks that Aristophanes writes as an advocate of the "limited democracy of the Five Thousand." So also, Henderson, p. 474: "Thus in the *Frogs*, Aristophanes' happiest Comedy, both poets hint broadly that it is best to recall Alcibiades, and 'to change the government.' It cannot be doubted that this was the dramatist's own view."

¹²⁷Ran. 1449-50.

¹²⁸Ran. 1452, trans. Rogers. This is one of the verses marked as spurious by Aristarchus and Apollonius.

much longer than Euripides and is out of touch with current events in Athens, asks his questioner whether the city uses the good citizens now. When told that she hates them, he asks whether she delights in the bad citizens. Dionysus replies that she certainly does not delight in them, but is forced to use them.¹²⁹ Whereupon Aeschylus delivers himself of the pessimistic proverb:

"How can one save a city such as this,
Whom neither frieze nor woollen tunic suits?"¹³⁰

Nevertheless, urged to offer his advice on pain of being left in Hades, he finally permits himself to declare that the Athenians will find salvation

"When they shall count the enemy's soil their own,
And theirs the enemy's: when they know that ships
Are their true wealth, their so-called wealth delusion."¹³¹

There are two separate suggestions here. The scholiast and Suidas¹³² explain the first as a repetition of the famous policy of Pericles enunciated at the beginning of the Peloponnesian War: "If they march against our territory, we shall sail against theirs."¹³³ Almost every modern commentator has repeated this explanation, and although some of them have had misgivings as to its correctness,¹³⁴ they have been unable to set themselves free from the error of the scholiast because of the fatal similarity between the words of Aeschylus in Aristophanes and those of Pericles in Thucydides. It is, however, obviously impossible that in this critical statement which is to demonstrate the final superiority of Aeschylus as a source of political wisdom, Aristophanes should have represented his favourite as the champion of a policy which is in direct conflict with every indication of his own much published views.

¹²⁹*Ran.* 1454-57.

¹³⁰*Ran.* 1458-59, trans. Rogers.

¹³¹*Ran.* 1463-65, trans. Rogers.

¹³²*S.v.* "Pericles".

¹³³Thuc. i. 143. Cf. Thuc. ii. 23, 55; Plut. *Per.* 34; Ps.-Xen. *Ath. Pol.* ii. 16.

¹³⁴Cf. Kock, note *ad loc.*; Couat, p. 126; Radermacher, p. 345; Murray, p. 120.

Pericles stood for a war of attrition with Sparta. Aristophanes wrote two plays, the *Acharnians* and the *Lysistrata*, as far apart as 425 and 411, with the unmistakable moral that Athens should make peace with Sparta. The same policy can be traced in most of the other plays, in hints and allusions. Aristophanes attacked Pericles in two plays for causing the war,¹⁸⁶ and specifically criticized the very policy, supposed to be suggested here by Aeschylus, of raiding Peloponnesian territory.¹⁸⁸

Strangely enough, Van Leeuwen, who reminds us that Aristophanes has lost none of his hatred for war and revolution,¹⁸⁷ does not on that account reject the scholiast's interpretation of the passage. He accepts the scholiast's explanation of the meaning of the lines, but finds the advice untimely. It would be attributed more suitably to Pericles in a play produced earlier in the war, than to Aeschylus in the *Frogs*. For the *Frogs* was produced near the end of the war, when Athens was no longer in a position to raid the Peloponnesian coast. Thus he is led to the conclusion that this speech of Aeschylus is an interpolation from the *Demes* of Eupolis.¹⁸⁸ To do Van Leeuwen justice, he admits that the verses are not unworthy of Aristophanes, and that his explanation does not satisfy himself. Against the view that the lines really belonged to Pericles in the *Demes* of Eupolis, or even that the sentiment expressed is wholly Periclean, we should not forget Fritzsche's comment that the last words of Aeschylus' speech are not in agreement with the policy of Pericles.¹⁸⁹ Pericles had instituted state pay for jurors which Aeschylus calls not wealth but a delusion.

The scholiast's interpretation is a delusion, and so are all the explanations built upon it. The speech is neither genuine Periclean doctrine nor would Aristophanes subscribe to it. On the other hand, the lines permit of a perfectly natural

¹⁸⁶*Ach.* 530 ff. and *Pax* 606 ff.

¹⁸⁷*Pax* 625-27.

¹⁸⁸*Ranae*, p. xviii.

¹⁸⁹Notes *ad Ran.* 1463, 1466, and *Ranae*, pp. xi-xii.

¹⁹⁰Note *ad Ran.* 1463.

explanation, and one quite in accord with Aristophanes' views. Tucker is apparently the only commentator who has seen the true meaning. He says: "It is probable that the words rather mean 'when we (stop the war and can) treat the enemy's country as ours and ours as theirs (i.e., so far as intercourse and trade are concerned).'"¹⁴⁰ This is pure Panhellenism, of the same variety as is found in the great peace plays, the *Acharnians*, *Peace*, and *Lysistrata*. It is the noblest sentiment of Aristophanes and thus brings his examination of the poetic function to a proper climax¹⁴¹ in a merited victory for Aeschylus.

The second item in Aeschylus' plan for national safety is also quite in keeping with the previously expressed views of Aristophanes, and this time by sifting the scholia, we may glean a suggestion which points toward the correct and natural explanation. According to one scholium, divested of its inaccuracies, Aeschylus advises that public monies, at present distributed among the citizens through various funds, should be diverted to naval expenditure. Among modern editors who have adopted this explanation, Tucker's statement again is as clear and satisfactory as any. He continues: "'... when we treat our ships as our resource (i.e., spend our money upon them with a view to recuperation and a stronger future revenue), and regard the present (way of dealing with the) revenue as (the cause of) helplessness.'" All critics are agreed that we have here a strong plea for the concentration of the national effort upon the maintenance of an effective fleet, an authoritative corroboration from the poet-laureate-elect for the stress laid by the sacred chorus in the *epirrhema* upon the patriotism of naval service.

The only obscurity is found in the final antithesis "their

¹⁴⁰Note on *Frogs* 1463.

¹⁴¹According to the interpretation of Croiset, pp. 161-62, the advice of Aeschylus brings the play to a meaningless anticlimax: "Why should we not rather assume that it amused Aristophanes to allot to the old poet a magniloquent judgment, but one that did not apply to current events?" By rejecting lines 1459-66, Radermacher, p. 345, gives victory to Aeschylus for the pessimistic judgment that Athens cannot be saved.

so-called wealth delusion,"¹⁴² or more literally, "when they realize that their resource is resourcelessness." The clue to Aeschylus' meaning is given in Dionysus' retort: "Fine, except that the dicast alone swallows it down."¹⁴³ This allusion shows that since the overthrow of the Five Thousand, the former democratic system of paying the dicasts for jury duty had been restored.¹⁴⁴ Since the Spartan occupation of Deceleia, poverty in Athens had increased to such an extent, particularly among the rural population stranded within the walls, that state aid was necessary.¹⁴⁵ Even the renewal of the pay for jury duty did not cover the whole need, and a straight dole of two obols a day, known as the *diobelia*, was introduced by Cleophon as a relief measure to help the poor who were not otherwise in receipt of pay for public service.¹⁴⁶ The administration of this relief was important enough to require the oversight of a particular officer.¹⁴⁷ It was a duty likely to be sought by real or pretended "friends of the people".¹⁴⁸ The handling of so much money for such popular expenditure would afford opportunity both for currying favour with the people, and also for dishonesty if the administrator were so inclined. Although the policy of direct relief was necessary and even justified in the circumstances in which many helpless Athenians found themselves, it was prone to abuse.¹⁴⁹ The restora-

¹⁴²Cf. Croiset, p. 162: "But I, for my part, should be more inclined to believe that it is simply an empty antithesis, intended to imitate an oracular formula." Bergk suggests the emendation *phoron* for *poron* as the last word in line 1465. As Van Leeuwen points out, this would destroy the play on words in the line. The tribute had been discontinued anyway since 413, and was no longer an issue. Radermacher, p. 345, calls the expression "reine Rätselrede."

¹⁴³*Ran.* 1466.

¹⁴⁴Busolt, *G.G.*, III, 1543; Meyer, *IV*², 612.

¹⁴⁵Busolt, *G.G.*, III, 1543-45. Cf. *ibid.*, pp. 1402-5.

¹⁴⁶Aristotle *Ath. Pol.* 28. 3. Cf. *Ran.* 140-41. The *diobelia* was instituted in the summer of 410. Cf. *IG*, I³, 304; Busolt, *G.G.*, III, 1544 and 264, n. 2; Wilamowitz, *A.u.A.*, II, 212-16; Meyer, *IV*², 612; *CAH*, V, 344; G. E. Underhill, *A Commentary on the Hellenica of Xenophon* (Oxford, 1900), p. 32.

¹⁴⁷*Xen. Hell.* i. 7. 2. Wilamowitz says that the fund was administered by a commission (*A.u.A.*, II, 213).

¹⁴⁸Cf. *Vesp.* 666-67.

¹⁴⁹Aeschines (ii. 76) says that Cleophon corrupted the people by the distribution of money.

tion of dicastic pay was an inevitable result of the reactionary spirit which followed the collapse of the unpopular oligarchy.¹⁵⁰ The mercenary motive, however, operated in the direction of an encouragement and an increase of litigation, which is an unwholesome development in public affairs. But the most immediately serious effects of this kind of public expenditure were its disproportionate drain on the treasury¹⁵¹ and the two consequences of a depleted treasury; first, starvation of other public services; and second, desperate, drastic, and usually uneconomic new taxation.¹⁵²

The most vital public service which suffered in diminished efficiency from lack of adequate financial maintenance was the navy. At the time the poet was writing, the Athenian fleet was operating at a great disadvantage in its campaign against Lysander. Athenian sailors were poorly and irregularly paid, while Persian gold flowed freely into Spartan pockets.¹⁵³ The Athenian generals were forced to maintain their squadrons with indifferent success by collections and requisitions from the unhappy subjects or allies, who had not yet dared to revolt, or had been reconquered.¹⁵⁴ Out of this impossible situation arose that ironical mockery of justice, whereby the Athenian general, Erasinides, was brought to trial by the blear-eyed demagogue, Archedemus. Erasinides was accused of obtaining from the Hellespontine region money belonging to the state, and his accuser was the administrator of the dole.¹⁵⁵ The dole which Archedemus was distributing was probably one important cause for the lack of funds which had driven Erasinides to his unauthorized levy. The incident occurred only a few months before the production of the *Frogs* and accounts for the unpleasant references in the play to Archedemus,¹⁵⁶ and, in part, for the sympathetic allusion to Erasinides.¹⁵⁷ Erasinides

¹⁵⁰CAH, V, 344.

¹⁵¹Busolt, *G.G.*, III, 1545, *IG*, I², 304.

¹⁵²Busolt, *G.G.*, III, 1405-6.

¹⁵³Xen. *Hell.* i. 5. 1-9, 6. 18; ii. 1, 12, 15. CAH, V, 347, 353, 359.

¹⁵⁴Xen. *Hell.* i. 5. 20; Thuc. viii. 76; Busolt, *G.G.*, III, 1543; Meyer, *IV*², 612, 636; Underhill, pp. 314, 320; Croiset, p. 148; CAH, V, 358.

¹⁵⁵Xen. *Hell.* i. 7. 2.

¹⁵⁶Ran. 421, 588.

¹⁵⁷Ran. 1195-96

was one of the scapegoats of Arginusae and was put to death with the other generals.¹⁵⁸

The play is not without its allusions also to the second consequence of the shortage of funds caused by the renewal and extension of the policy of supporting citizens out of the treasury. Greater revenue was needed to balance the increased expenditure; new emphasis was laid upon the collection of taxes; and the natural unpopularity of tax-collectors was accentuated. In the choral anapaests of the *Frogs*, "collector of the five per cent." is used as an epithet of opprobrium, equally applicable to various types of reprobates including thieves and traitors.¹⁵⁹ At the close of the play, the gift of death is wished upon various individuals by Pluto, but the only whole group so doomed is that of the *poristai*,¹⁶⁰ who are supposed to be members of a magistracy especially charged since the Sicilian catastrophe with the express duty of providing additional revenue.¹⁶¹ The word play on *poroi* ("wealth") in the passage which we are considering is, no doubt, intended to suggest that the value of the *poristai* is a delusion also. Aristophanes' insinuations about the "collector of the five per cent." and his poetic execution of the *poristai* are not due merely to his prejudice as a taxpayer, but rather to his opposition to the financial policy of Cleophon and Archdemus and their followers.

The enforced confinement of the population of Attica within its defences lasted so long, and the consequent poverty became so marked, that in comparison with the extensive lack of individual resources, the new state dole and the revived dicastic pay must have seemed like comparative wealth to the poor recipients. But the policy was short-sighted and the

¹⁵⁸He was also the mover of the decree bestowing Athenian citizenship upon the murderer of Phrynichus. *IG*, I², 110.

¹⁵⁹*Ran.* 363.

¹⁶⁰*Ran.* 1505.

¹⁶¹Beside the reference in the *Frogs* the *poristai* are mentioned only in Antiphon vi. 49. The common opinion is that the magistracy was created at the same time as the *Probouloi* in the emergency following the Sicilian catastrophe. Cf. K. J. Beloch, "Zur Finanzgeschichte Athens," *Rheinisches Museum*, XXXIX (1884), 250. For a different view cf. Busolt, *G.G.*, III, 1405, and n.2; Busolt-Swoboda, p. 904.

wealth short-lived. Comforts for the poor meant bankruptcy for the state. If the state could not properly maintain its fleet, the imperial revenue out of which the dole was paid would soon cease. It was a vicious circle. This is the delusion at which the poet hints. It is a delusion similar to that which he took such pains to expose in the elaborate argument of Bdelycleon in the *Wasps*.

Aristophanes stands intermediate in the Themistocles-Demosthenes tradition. As Themistocles gave the Athenian navy its first great impetus by inducing the people to spend the Laurian mining profits upon ships instead of upon themselves,¹⁶² and as Demosthenes later contended that they should forego the *theoricon* because the money was needed to fight Philip,¹⁶³ so Aristophanes urges, as the scholiast perceived, that it is a delusion to suppose that poverty can be permanently relieved by public subsidies if the revenue is imperilled by neglecting the fleet. This explanation of the meaning of Aristophanes is proved correct by the only safe test, its consistency with those passages in other plays which deal with the same problem. Tucker happily compares the passage at the end of the *Knights* where the reformed *Demos* confesses his remorse and shame at the errors of policy to which he has been led through the flattery and deceit of the demagogues. One of his chief mistakes was that "if two orators addressed [him], one urging [him] to build warships, the other to distribute the money in pay, the advocate of pay always outstripped in the race the advocate of warships."¹⁶⁴ Incidentally, it is worth noticing that one of the charges against Euripides in the *Frogs* is that he corrupted the mariners of the fleet.¹⁶⁵

The *Frogs* is of especial interest among literary masterpieces because of its clear, bold championship of the principle of the didactic function of art. A briefer, though quite definite statement of the principle occurs in the *Acharnians*¹⁶⁶ and

¹⁶²Plut. *Them.* 4; Thuc. i. 14, 93.

¹⁶³Demost. i. 19; iii. 10-11; cf. lix. 4.

¹⁶⁴*Eq.* 1350-53.

¹⁶⁵*Ran.* 1071-73.

¹⁶⁶*Ach.* 633-58.

the poet applies it in all his plays. Without an appreciation of this fact his serious meaning would often be overlooked. His assertion of the principle is sufficient warrant for the belief that his plays were intended to do more than entertain and amuse. It is an indisputable guarantee that where politics form the topic of discussion in the *Frogs* some serious suggestion is to be inferred. We know too that the poet's suggestions in the *Frogs* were taken seriously, although the ancient tradition mentions only the *parabasis* of this play as having received such recognition.

The *parabasis*, however, is only an introduction to the serious message of the *Frogs*. It contains rather obvious rules for the immediate improvement of political conditions. The remedies proposed were welcomed because they were so plainly necessary, but Aristophanes did not consider them sufficient in themselves to cure. As in the simile of the *Lysistrata*, domestic reform is closely interwoven with imperial reform, so internal policy is linked with external policy in the *parabasis* of the *Frogs*. The *epirrhema* is more than a plea for amnesty. It names naval service as the essential proof of claim for citizenship. The *antepirrhema* is more than a plea for better leadership in local affairs. It calls for the use of better statesmen "both among the Greeks and the Barbarians everywhere."¹⁶⁷ The domestic and foreign policies of Aristophanes are really interdependent. Foreign policy could not be corrected as long as *atimia* deprived the better element in the state of a voice in that policy. The poet's interest in seeking the removal of civic disabilities was based in no small degree upon his desire to improve Athenian foreign policy. It is because of this that so much attention has been given in our discussion to the *parabasis*.

Similarly, personal allusions to sundry politicians have been brought under review, to show that Aristophanes attacked those men not because they belonged to a party to which he did not, but because they were responsible for definite public acts which were inimical to the policy he wished to promote.

¹⁶⁷*Ran.* 724.

Cleophon refused peace blindly and stubbornly when it might have served Athenian interest better to accept it. Archedemus, a democrat, and Theramenes, once a leader among the Four Hundred, deserved censure for their parts in the condemnation of the generals and received it at the hands of Aristophanes.

The *agon* follows the *parabasis* with an exposition of the influence of literature upon the development of the type of citizenship praised in the *epirrhema* and of the type of statesmanship demanded in the *antepirrhema*. The didactic function of art imposes responsibility upon the artist. The whole argument is brought to a climax in the advice which proves the poet worthy or unworthy of that responsibility. The speech by which Aeschylus qualifies for a new term as the poet-teacher of Athens constitutes the very essence of Aristophanes' political wisdom. The political catechism with its oracular response is a new device for the presentation of his now familiar doctrine. The lands controlled by Athens and her present enemies are all alike Hellas, and the safety of the state (as well as that of the whole of Greece, he has told us before) depends upon its ability to pursue a policy of Panhellenism. The proper maintenance of Athenian naval power is the only means of guarding national wealth, private trade, and public revenue. At the same time it is the most effective way in which Athens can contribute to the security of Hellas, and defend the lands of other Hellenes as she does her own. In conclusion, we are told by the chorus that the adoption of Aeschylus' advice is to result in peace: "For thus we should be altogether relieved of our mighty woes and our fierce conflicts in arms."¹⁶⁸ We are not told that this part of Aristophanes' message was received with the same enthusiasm as that which greeted his *parabasis*; but his main points could not be lost upon an audience which had listened to his other plays. The audience could not fail to be reminded of "Peace with Sparta", "Athenian Naval Hegemony", and the product of these factors, "Panhellenic Dualism".

¹⁶⁸*Ran.* 1531-32. Cf. the desire for peace implied in the criticism of Cleigenes in *Ran.* 715.

VIRGIL'S *GEORGICS* AND LABOUR ON THE LAND

S. JOHNSON

"What makes the cornfield smile; beneath what star
Maecenas, it is meet to turn the sod
Or marry elm with vine; how tend the steer;
What pains for cattle-keeping, or what proof
Of patient trial serves for thrifty bees;—
Such are my Themes."

(*Geo. I*, 1-5, tr. James Rhoades).

I

ON CORONATION DAY, May 12th, a few of us celebrated by a long drive in rural Manitoba. For a while we journeyed amid the fertile farmsteads of the historic Red River valley; then our course veered to the very primitive and undeveloped districts lying beyond. Here at one point we sniffed the pungent reek of roots and grasses smouldering among heaps of stones where the rolling and rocky prairie at the edge of the bush had been laboriously transformed to tillage. Presently we caught sight of the lord of those arduous acres: a lonely figure in a far-off part of his holdings, harrowing or seeding amid the newly conquered clods. Certain lines of Hardy's,¹ composed in another Westland, came to mind as apposite to the circumstances and the scene:

"Only a man harrowing clods
In a slow silent walk
With an old horse that stumbles and nods
Half asleep as they stalk.

"Only thin smoke without flame
From the heaps of couch grass:
Yet this will go onward the same
Though Dynasties pass."

and we began to meditate on a well-worn theme: the intimate connection between agriculture and empire, man and nature.

¹Thomas Hardy: *Breaking of Nations* (*Selected Poems*, Golden Treasury Series, p. 203).

Naturally such a discourse drifted back to the *Georgics* of Virgil, with their deep sense of nature's mysteries conjoined with the eternal sentiment of field tillage and the abiding social importance of the plough.

Dwellers on the western prairies need no reiteration of the necessity of effort. Here the pioneers and their sons have arduously acquired acres as extensive as a continent by mixing their labour with the land, much in the spirit of Milton's² Adam: "With labour must I earn my bread; what harm? Idleness had been worse." To these the poet of another country in the distant past might have little to offer by way of practical instruction on agricultural themes, yet Italy, too, was primarily, as it still is,³ an agricultural country,⁴ and the inhabitants of that land were fortunate enough to have in their midst a poet like Virgil who had the capacity to garner the significant elements of their civilization⁵ and to point out to them, precisely at the inauguration of the rule of Augustus, at the beginning of a new social and political epoch,⁶ such fundamental truths as the essential kinship of man and nature and the enduring value of energizing on the land. It has been fittingly observed that the Roman Empire was the source from which the modern world took its rise.⁷ At the very outset of that imperial regime stands Virgil, the Rustic of Genius,⁸ directing his countrymen, as he later guided Dante and the mediaeval world, to an

²Milton: *Paradise Lost*, X, 1054-5.

³Cf. Showerman, G.: *Rome and the Romans*, pp. 251-66; Frank, T.: *An Economic History of Rome*, Rostovtzeff, M.: *The Social and Economic History of the Roman Empire*. See also Note 52 *infra*.

⁴Showerman: *ibid.*, p. 265; Cesaresco, E. M.: *The Outdoor Life in the Greek and Roman Poets*, pp. 141-42.

⁵Sargeant, G. M.: *Classical Studies*, p. 184: "Virgil is the focus in which the genius of Italy as well as of Rome is centred."

⁶Shuckburgh, E. S.: *Augustus*, p. 265: "Augustus found himself . . . amid the ruins of the constitution and the *disjecta membra* of a great Empire." Yet, however, the *Pax Romana* imposed by Augustus inspired men like Virgil with "the idea of the beginning of a new era" (cf. *Ecl.* 4) "in which the justice and freedom of the Golden Age should come again and men and nature work once more in harmony" (Bailey, C.: *The Mind of Rome*, p. 112).

⁷Cf. Bryce, James: *Holy Roman Empire*, p. 439: "Into the Roman Empire all the life of the ancient world was gathered; out of it all the life of the modern world arose."

⁸Myers, F. W. H.: *Essays*, p. 126.

earthly paradise. As the *Vade mecum* for their guidance to "this other Eden, demi-paradise"⁹ where all may have the joy of work and the fruits thereof, he offers them the *Georgics* acknowledged to be not only the first but the greatest masterpiece of imperial Rome.¹⁰ From that masterpiece the world still has much to learn.

II

Virgil's *Georgics* were begun in 36 B.C. and completed in 29 B.C. Suetonius¹¹ says they were written in seven years and were read to Octavian at Atella just prior to the latter's triple triumph in 29 B.C. The internal evidence of the *Georgics* in regard to historical events confirms this traditional statement.¹² In the poems there is no allusion to anything later than that year.¹³ The place of composition was clearly Naples¹⁴ and in-

⁹Dante: *Inferno* I, 113, 133; *Purgatorio* I, 49, 64-5; XXVII, 127-130 Shakespeare *Rich. II*, II, 1, 42.

¹⁰Mackail, J. W.: *Latin Literature*, p. 95: "They were published two years after Actium, being thus the first, as they are the most splendid, literary productions of the Empire."

¹¹Suetonius: *Vita Verg.* 2, 9; *Donatus' Vita* 25 (40). Four successive days were occupied in the reading of the *Georgics*; when Virgil's voice tired, Maecenas took a turn.

¹²A detailed examination is obviously impossible. The Prefaces to *Geo. I* (1-42) and *Geo. III* (1-48) and the last eight lines of *Geo. IV* were written either in 30 or 29 B.C. The concluding parts of *Geo. I* and *Geo. II* suit 33 or 32 B.C. Some points are still in doubt: e.g. the first part of *Geo. I* 509 applies anywhere from 40-31 B.C., while the second refers either to 38 or 37-30 B.C. See also Note 13 *infra*.

¹³*Geo. I*, 504, was probably written before Octavian's triple triumph in August of that year. *Geo. III*, 31, does not refer to the recovery of the standards lost by Crassus at Carrhae in 53 B.C., (and perhaps also later by Antony): these were not recovered until 20 B.C. and then, not by military victory over the Parthians, but by negotiations. The Aristaeus-episode (*Geo. IV*, 315-558) whose psychological insight Mackail admired and whose poetic quality some critics regard as the finest in the *Georgics* was, of course, later than 29 B.C. According to the ancient tradition, it replaced a passage on Gallus, removed for political reason, after Gallus was disgraced and committed suicide. In general it is safe to say that the *terminus ad quem* of the *Georgics* is settled by the undisputed fact of Virgil's giving the reading at Atella in 29 B.C.: the *terminus a quo* is most safely set by the reference to the Portus Julius (*Geo. II*, 161-164) completed by Agrippa, under orders from Augustus, in 37 B.C.: it was a part of the preparations made against Sextus Pompey.

¹⁴*Geo. IV*, 564. Parthenope is the other old name for Naples; cf. the epigram on Virgil's tomb.

deed the scenery of the poems is mainly Campanian. Here the poet could compose undisturbed; after July, 36 B.C. the South of Italy as far north as Naples and its environs was at peace. Virgil wrote with slow and elaborate care, writing only a few lines at a time and polishing them to the utmost perfection;¹⁵ according to the ancient Life the author himself asserted that he licked them into shape as a she-bear licks her cubs.¹⁶ The four cantos of the *Georgics* have a corpus of 2,188 hexameter lines; the average rate of composition was therefore less than a line per day. Their subjects have been succinctly stated as agriculture, arboriculture, animal culture and bee culture.¹⁷ Of these the first-named was basic in Italian economy.

On agriculture the whole fabric of Roman religious and social institutions likewise rested. And indeed the Romans looked on their empire as, in a sense, a direct outcome of the land.¹⁸ Moreover, the cultivation of the land was linked up with the ethical concepts of the Italian people.¹⁹ Agriculture was the only form of industry which was compatible with Roman dignity;²⁰ hence even the patricians, though they would have shrunk from engaging in any handicraft or trade as illiberal preoccupations, might be seen directing the plough, or taking a hand in some other menial activity on their estates

¹⁵Suetonius: *op. cit.* 22.

¹⁶*Ibid.*, *carmen se ursae more parere dicens et lambendo demum effingere.*

¹⁷Prescott, H. W.: *The Development of Virgil's Art*, p. 123; cf. the motto of this paper.

¹⁸Sikes, E. E.: *Roman Poetry*, p. 114.

¹⁹Sellar, W. Y.: *Virgil*, p. 276.

²⁰Of the many quotable *loci communes* on agriculture, two passages in Cicero seem outstanding (a) *de officiis*: I, 42, closing thus: *omnium autem rerum ex quibus aliquid acquiritur, nihil est agri cultura melius, nihil uberius, nihil dulcius, nihil homine libero dignius.* (b) *de senectute*: ch. 15-17, referred to in the above-mentioned chapter; this entire passage is saturated with ideas essentially Roman, recurring in the *Georgics*, regarding the benefits of agriculture. Some of the key-notes are (§51) *me quidem non fructus modo sed etiam ipsius terrae vis ac natura delectat*; (§57) *agro bene culto nihil potest esse nec usu uberius nec specie ornatus*; (§51) *quae* = delights of husbandmen . . . *mihi ad sapientis vitam proxime videntur accedere.* Cicero too dwells on numerous Roman worthies reared on the farm.

alongside of their helpers, bond or free.²¹ Tradition recorded that even the founder of the city was adept with the plough²² and that in the days of the Republic consuls often went straight from the plough-tail to the *fascēs* or to dispense justice to the people. In those days hardened hands were no disgrace.²³ What Cato the Elder²⁴ and, more recently, Cicero²⁵ and Varro²⁶ had done in prose for the basic activity of the race, Virgil set himself to do in his own inimitable way in the *Georgics*.

With the exception of Satire, there was no department of poetry more characteristically Roman than the didactic.²⁷ Virgil however is restless under the necessity of poetizing agricultural treatises and continuing the tradition of didactic poetry.²⁸ In spite of its prosy material the *Georgics* is a poem of feeling as well as of action and it is the strength of the poet's own feeling that gives it poetic value.²⁹ And while Lucretius, whose *de rerum natura* is the greatest didactic poem in the language and the chief source of inspiration for Virgil's *Georgics*,³⁰ em-

²¹Geikie, Sir Archibald: *The Love of Nature among the Romans*, p. 23. The villa-life of the Romans, so much evidenced in the writings of Cicero and of that typical gentleman in the country in the days of the Empire, Pliny the Younger, is closely related to this matter. Incidentally it might be noted that the change from peasant farming to the formation of capitalistic estates which came c. 200 B.C. did not alter greatly the Roman conception of the nobility of agriculture. In general the Roman recognition of the dignity of labour on the land owes nothing to Greek originals; of the latter the ideal was intellectual leisure. cf. Sellar: *op. cit.*, p. 267.

²²Cf. Propertius: 4. 10. 19, of Romulus (who was the son of Mars on whom see note 135 *infra*): *fuit aptus aratro*.

²³Ovid: *Fasti* III, 779-782; I, 204-7, and note 21 *supra*.

²⁴Cato the Elder's *de Re Rustica* on agriculture, still extant.

²⁵Cicero in his twenty-first year translated the *Economics* of Xenophon (cf. *de officiis* II, 87) in three books of which the third dealt with agriculture. See also note 20 *supra* for Cicero's service to the subject.

²⁶Varro in 37 B.C. produced a work, in three books, on agriculture called *de Re Rustica*. Its appearance may have stimulated Virgil to write on the same theme, when his attempt at an Italian epic (with Caesar for hero) had temporarily failed.

²⁷Sellar: *op. cit.*, p. 261. Mommsen (*History of Rome*, I, 13, p. 243) remarked that Roman literature itself in fact began with a discussion of the theory of agriculture.

²⁸Prescott: *op. cit.*, p. 133.

²⁹*Ibid.*, p. 133.

³⁰Lucretius sets forth in six books the Atomic Theory of the Universe, Epicureanism in Ethics and the History of Civilization as he conceived it to have been.

ployed the honey of poetry only in order to entice his readers to imbibe the bitter wormwood of his philosophy,³¹ Virgil primarily aims not to teach but to give pleasure.³² On that objective he lavishes all the manifold resources of his poetic art. The realization of the poet's primary aim renders a detailed account of his literary borrowings, whether from Greek or from native sources, less significant.³³ There is something mechanical and superficial about cataloguing such matters; the omissions may be as significant as the inclusions.³⁴ Again, despite heavy indebtedness in details, the borrower may be almost alien to the spirit of his creditor. So it is with Virgil and Hesiod. Hesiod is his professed model in the *Georgics*,³⁵ yet from him Virgil differs even more than from his countryman Lucretius.

In his employment of literary sources Virgil adhered to the general classical tradition of imitation, yet we know from Macrobius that plagiarisms (*furta Vergiliana*) were a favourite topic among the enemies of the poet.³⁶ There was, as they must have known, for it is met with so often in ancient writers, the

³¹Cf. Lucretius: *de rerum natura*, I, 936-950.

³²Page, T. E.: *Georgics*, p. XXI.

³³The main borrowings of Virgil, according to Ribbeck, are listed in A. Sidgwick's *Works of Virgil*, vol. 1, introduction. Merrill's figures of borrowings and reminiscences of Lucretius in Virgil seem to total 173 for the *Eclogues*, and 177, 182, 181 and 158 instances in the four Cantos of the *Georgics*. The falling off in Bk. IV may be in part due to the insertion of the Aristaeus-legend from l. 315 foll. Virgil's use of Hesiod is almost entirely limited to the First *Georgic* dealing with agriculture. Varro is particularly important as a didactic source for *Geo. III* and *IV* and for portions on rustic practices and precepts, not handled by Hesiod. Sporadic use of Alexandrians like Eratosthenes (for hints in *Geo. I* and *II*), and Nicander, Aristotle and Theophrastus only slightly affects Virgil's delineation of rural life. As to Homeric borrowings, it may be seen that they are more numerous in the Third and Fourth *Georgics*, preparing the way for Virgil's heavy indebtedness to Homer in the *Aeneid*; citations from the *Odyssey* are especially noteworthy in the Aristaeus-legend, the late insertion in the latter Book.

³⁴Glover, T. R.: *Studies in Virgil*, p. 54, "What a poet rejects is as significant as what he chooses" and quotes from Wordsworth's preface to the *Lyrical Ballads*.

³⁵*Geo. II*, 176. *Ascraeumque cano Romana per oppida carmen*. Prescott *op. cit.* pp. 119-120 goes too far in saying that "To this strange cento (= *The Works and Days of Hesiod*) Virgil's work on husbandry bears no direct resemblance in form or substance".

³⁶D'Alton, J. F.: *Roman Literary Theory and Practice*, p. 19.

conception of rivalry between a writer and his literary model.³⁷ The ancient poet, on this view, might hope to deal with old material, unless it was emptied of vitality,³⁸ from a novel standpoint,³⁹ and so surpass those who had dealt with the matter before him. In the process he might freely use expressions frankly borrowed from writers he was emulating. The poet might hope to succeed and to surpass anterior presentations also by a new charm of style.⁴⁰ This indifference to novelty in the subject matter was a characteristic of classical literature generally, and stands in strong contrast to the free invention favoured by the Romantic School.⁴¹ Again it was obvious that such a masterful race as the Romans would not be contented in a merely imitative mood;⁴² of this fact Virgil is an excellent instance. He borrows as extensively as Shakespeare and like him "the most myriad-minded man of his age" surpasses his predecessors and contemporaries in his use of their materials. Hence the total effect is not that of a mosaic but of a completely fused mass in which facts and fancy may be imitative rather than original but the resultant whole is inimitable.⁴³ Like every consummate artist Virgil conferred honour on his literary creditors. The result of his borrowings is an original masterpiece.⁴⁴

There was on foot a serious effort at rehabilitating agriculture. The choice of subject on the part of Virgil coincided with a need all men appreciated.⁴⁵ As early as 37 B.C. Octavian may have begun his far-sighted policy of regenerating Italy and may have included in his plans special provisions for rural improvement.⁴⁶ Maecenas enlisted Virgil's literary support for that movement⁴⁷ but the pressure need not have been

³⁷*Ibid.*, p. 431.

³⁸Seneca: Ep. 79.6 uses *consumpta* of an exhausted theme.

³⁹D'Alton: *op. cit.*, p. 431.

⁴⁰*Ibid.*, p. 431.

⁴¹*Ibid.*, p. 432.

⁴²Geikie: *op. cit.*, p. 13.

⁴³Prescott: *op. cit.*, p. 122.

⁴⁴Duff, J. Wright: *A Literary History of Rome from the Origins to the Close of the Golden Age*, p. 448.

⁴⁵Frank, T.: *Virgil, a Biography*, p. 160.

⁴⁶Prescott: *op. cit.*, p. 118.

⁴⁷*Geo. III*, 41 . . . *tua, Maecenas, haud mollia iussa* and the ancient life (see note 11 *supra*).

great: Virgil's own views harmonized fully with the Augustan policy. In Julius Caesar he had genuinely mourned for a lost leader;⁴⁸ in Octavian, his heir and adoptive son, "the beautiful youth"⁴⁹ he had so early come to venerate,⁵⁰ he saw a Saviour of society⁵¹ to succeed to the unfinished task of the great Julius. Perhaps the Machiavellian Octavian satisfied Virgil more completely with his achievements than the greater Julius ever could have, with his logical directness, his dictatorial impatience, and his disregard of ancient precedents. In the reconstruction of a new Rome and a new Italy devastated by civil wars,⁵² the only

⁴⁸*Geo. I*, 466, foll. on the omens, etc., in regard to the assassination of the great Julius. This passage is in sharp contrast with the playfulness of the invocation to Octavian with which the canto begins; the latter was obviously written a good deal later and clearly after Actium was fought and won. Most of the circle at Naples in which Virgil moved consisted of Transpadanes who were hot supporters of Caesar. Indeed Virgil's impulse to write epic, dates, according to the belief of some critics, from September 26, 46 B.C. when Caesar dedicated the temple of Venus Genetrix after his four triumphs in that year. Donatus in his *Life* says that Virgil presently, when he had commenced the *res Romanae* became offended at his work and turned to the *Bucolics*. Frank (*Virgil*, p. 71 foll.) cites the internal evidence of the *Aeneid* to support this contention. The reference to the star of Venus-descended Caesar (*Ecl. IX*, 47) is a realistic touch to enforce the deification of the martyr Caesar.

⁴⁹A hieroglyphic inscription of Philae, dated 29 B.C., calls him the beautiful youth, and his youthful head appears on coins after 27 B.C.

⁵⁰As early as 48, Virgil, in the *Culex*, refers to Octavian as *Octavi venerande, sancte puer*.

⁵¹*Geo. I*, 500-1. *Hunc saltem everso iuvenem succurrere saeculo ne prohibete* Virgil asks of the *Di patrii*.

⁵²Varro, writing in 37 B.C., seems to deny the devastation of Italy after generations of civil wars, especially in *I*, 2, 3: *vos qui multas perambulastis terras equam cultiorem Italia vidistis?* and *ibid.* 2, 6: *contra quid in Italia utensile non modo non nascitur sed etiam non egregium fit?* and proceeds to eulogize the excellent products of certain communities in Italy. M. Rostovtzeff (*op. cit.*, pp. 30, 494-5) accepts Varro's statements in his *de Re Rustica* as true, and not a patriotic exaggeration, and contends (*ibid.*, p. 61) that the Civil Wars had not affected the development of agriculture in Italy. Again (p. 65) he seems to limit the protests of Virgil and some other poets of the period to the disappearance of peasants and their transformation into *coloni* of land-owners: such romantic souls were regretting the passing of ancient Italy. But he goes on to admit that this change in the peasantry was very disturbing and agitated the minds of men like Augustus and Maecenas. Assuredly it implied the plight of agriculture, which is attested to by "a cloud of witnesses", as the result of protracted civil wars, and the settlement of veterans 170,000 strong, after Philippi, would hardly be likely to transform Italy into a veritable garden, by 37 B.C. It is a well-known fact that no pursuit recuperates more rapidly (*Continued on p. 228*)

hope, as Virgil thought, was to follow the ancients, to study the *exempla maiorum* and to accept their way of life.⁵³ Hence the poet's antiquarianism is not a dilettante recreation, like so much of the decorative learning of the Alexandrians, but is a subject pursued for a noble end.⁵⁴

III

The theme of the *Georgics* emerges in the opening lines of the first canto, which I have put down as the motto of this paper. To this task Virgil seemed admirably suited; for his own rural origin and rustic experiences had left a lasting effect on his character.⁵⁵ "Reared among woods and thickets, an Italian country child, the counterpart of Wordsworth in the union of spiritual aspiration with rustic simplicity in which his early years were spent, Virgil like Wordsworth seemed singled out as the poet and priest of nature".⁵⁶ Yet his own preference was natural philosophy. He aspired to be another Lucretius.⁵⁷

⁵³Sikes: *op. cit.*, p. 88.

⁵⁴*Ibid.*, p. 89.

⁵⁵Cesaresco: *op. cit.*, p. 127.

⁵⁶Myers: *op. cit.*, pp. 159-160.

⁵⁷*Geo. II*, 475-482.

than agriculture, yet according to Rostovtzeff's own statement (*ibid*, p. 95) it was not till Nero's time that "Italy was gradually becoming a corn-land again," (ital. mine) and T. Frank (*An Economic History of Rome*, p. 428) cites Domitian's edict as proof that in the reign of that emperor grain produced in Italy did not suffice the needs of the population. That edict (Suet. Dom. 7, 2; 14, 2) forbade the planting of new vineyards in Italy and ordered the cutting down of half the vines in the provinces—an attempt to check excessive viticulture. In general the imperial policy regarding agriculture was one of *laissez faire* (cf. Rostovtzeff: *op. cit.*, p. 89) and even in the Early Empire commerce remained secondary to it. The same authority (*op. cit.*, p. 65) points out that after the civil wars we hear nothing of any agrarian law: this may have been due to the fact that the great capitalists remained dominant in the economic life of the Empire as they had been under the Republic, the chief of these being the emperor himself (*ibid*, p. 55); or, again, because it became increasingly difficult to legislate for all parts of such a diversified domain as Italy (cf. Frank: *op. cit.*, p. 424: "Italy is large and the different regions vary much in natural resources.") At all events, despite the encroachment of capitalistic farming which the same historian (*op. cit.*, p. 437) points out is erroneously called "scientific agriculture," the primacy of agriculture in Italy was continuous. On that the authorities seem to be in accord.

That is why he has Silenus sing of the cosmogony,⁵⁸ and "long-haired Iopas" entertain at Dido's state-banquet at Carthage, singing of scientific subjects.⁵⁹ These were dearest to Virgil's own heart. This evidence accords well with the tradition that he intended to devote his remaining years after his literary labours were finished, to philosophy.⁶⁰ Virgil was perhaps not so keen an observer of the life of nature as Lucretius but he is as much a lover of it. "Beauty born of murmuring sound" would sooner pass into his face.⁶¹ However, feeling his limitations, Virgil chose the inferior theme of nature's physical and sensuous appeal as compared with the intellectual joy of penetrating into nature's inner mysteries.⁶²

That sensuous appeal of nature was not potent enough to counteract the ethical views of Roman philosophy or the practical views of Roman life.⁶³ The general outlook of the Romans on nature was bounded by certain well marked lines beyond which the eyes of Roman poets rarely travelled. Consciously or intuitively, they chose those aspects of nature that best fit in with their philosophy of life.⁶⁴ Nature interests the ancients, as a rule, less for its own sake than as a background for human action. They are concerned with nature as acted upon by man. One great critic has called this the Virgilian attitude from the ancient who perhaps expressed it most happily.⁶⁵ But Virgil, along with Catullus and Lucretius, essentially widened the typically narrow vision of the Romans, by glimpses of a nature whose beauty was not conditioned by utility. Catullus shows intimate beauties of the earth, Lucretius the great forces of the universe in their larger aspects. Virgil primarily chooses those aspects of natural beauty which illustrate nature's usefulness directly, as in agriculture, or indirectly, as in cool and

⁵⁸*Ecl.* VI, 31-40.

⁵⁹*Aen.* I, 742-6. It is significant that these songs of the bard were well received by the Carthaginians (*ibid.*, 747); politeness might account for the applause of the Trojan refugees.

⁶⁰Suetonius: *op. cit.*, 35 foll.

⁶¹Glover: *op. cit.*, p. 110, with a Wordsworthian adaptation.

⁶²*Geo.* II, 484-6. Frank: *Virgil*, p. 159.

⁶³Sikes: *op. cit.*, p. 119.

⁶⁴*Ibid.*, p. 125.

⁶⁵Babbitt, Irving: *Rousseau and Romanticism*, p. 270.

pleasant woods which minister to man's material and spiritual comfort and refreshment.⁶⁶ But Virgil, unlike Lucretius and Catullus, was spared the distractions of speculative philosophy and contemporary politics; and, unlike Horace, he was hardly influenced by the lure of the city and the court.⁶⁷ Moreover, there was in his life no passion for a Lesbia to win him away from his affection for nature.⁶⁸ In short, by temperament and environment, Virgil alone of the great Roman poets was qualified to be a real lover of country life.⁶⁹ His love of nature is both general, as in Lucretius, and combined with attachment to or interest in particular places, as in Horace;⁷⁰ with this difference that Virgil's attachment takes in a wider range. It is Virgil *par excellence* who teaches his countrymen that there is another land beside Greece, the land of Italy, full of charm, romance and poetry.⁷¹ In presenting the beauties of his native land Virgil mediates between the strict classicism of the ancient Greeks and the more luxuriant romanticism of the moderns.⁷²

Like so much in Virgil, his attitude to nature is really complex. In him two principles strive for expression: the philosophic and the romantic. In his desire to unite scientific conceptions with his own passionate love for beautiful scenery, Virgil distinguishes between the two attitudes, the Lucretian and his own.⁷³ In describing nature's creatures and processes, Virgil has little of the eighteenth century's sentimental rapture over nature.⁷⁴ He shows a sort of scientific animism, with the very modern attention to detail that marks the writings of the nineteenth century.⁷⁵ There is in him an essential belief in the spiritual value of things and events,⁷⁶ a belief in higher powers

⁶⁶Sikes: *op. cit.*, p. 128.

⁶⁷*Ibid.*, p. 128.

⁶⁸*Ibid.*, p. 128. Sikes rightly rejects, by implication, the gossip Donatus cites about Virgil.

⁶⁹*Ibid.*, p. 127.

⁷⁰Sellar: *op. cit.*, p. 271.

⁷¹Glover: *op. cit.*, p. 105.

⁷²Sikes: *op. cit.*, p. 137.

⁷³Duff: *op. cit.*, pp. 453-4.

⁷⁴Frank: *Virgil*, p. 162.

⁷⁵*Ibid.*, pp. 164-5.

⁷⁶Bailey, C.: *Religion in Virgil*, p. 317.

behind the outward recurrences of life which is the essential of an animistic religion;⁷⁷ as the basis of his observations was just Italy in all its glory, "and all its cruelty" adds Frank.⁷⁸ But surely to him, in the *Georgics* and elsewhere, nature is not "red in tooth and claw", as she was to Lucretius, who sets about to prove, in up-to-date scientific fashion, that the earth was not made for man.⁷⁹ On the other hand, it is surely an overstatement to say with Conway⁸⁰ that to Virgil nature was a being no less throbbing with life and affection, not less bountiful to man, than any human mother. Surely this is a pathetic fallacy, of which Virgil is, on the whole, free. Verrall,⁸¹ too, hardly wins assent, in saying that the world is mysteriously sympathetic with man's success, according to Virgil, and that his employment of didactic purpose is mere form. In a general way, however, Verrall's contention⁸² that the essence of the *Georgics* is visionary and symbolic, may with some modification, be endorsed.

Conway seems to be on surer ground when he holds that no one perhaps has ever lived who so combined the philosophic habit of seeing all things as a whole with the poet's power of vividly portraying individual things. To this he attributes the extraordinary power and charm of the *Georgics*.⁸³ Another great devotee of Virgil puts the matter in a slightly different way: "what the *Georgics* were designed to do and what they did with triumphant beauty was to embody in exquisite poetry an ideal, an imaginative vision, that of a life at peace with itself and in harmony with nature".⁸⁴ Mackail proceeds to

⁷⁷*Ibid.*, p. 29..

⁷⁸Frank: *Virgil*, p. 161.

⁷⁹Lucretius: *de rerum nature*: V, 195-234; cf. Tennyson: *In Mem.* LV, l. 5.

⁸⁰Conway, R. S.: *The Vergilian Age*, p. 109.

⁸¹Verrall, A. W. (*Companion to Latin Studies*, ed. by J. E. Sandys, p. 620). See also Geikie: *op. cit.*, p. 69.

⁸²Verrall: *ibid.*, p. 620. This hardly does justice to Virgil's realism; cf. Showerman, *op. cit.*, p. 265, "The life of Virgil's *Georgics* is the life of the Italian countryside today". T. Frank (*Roman Imperialism*, p. 81) points out two results from the emphasis on agriculture in Italy: (a) Roman lack of resourcefulness in dealing with the urban population and (b) lack of sympathy with various activities that a nation should foster.

⁸³Conway, R. S.: *New Studies of a Great Inheritance*, pp. 37-38.

⁸⁴Mackail, J. W.: *Virgil and his meaning to the World of Today*, p. 63; cf. note 6 *supra*.

cite with approval from Nichol's Sonnet on the *Georgics* that they were "not too steadily felicitous or too divinely alien to console."⁸⁵ In other words, Virgil stays on the *terra firma* of real Italian life, an existence wherein sufferings, toil, pain and sorrow and death have their place. According to Virgil, these are not isolated but are part of an organized universe.⁸⁶ This doctrine that suffering is a deep spiritual experience, that it is in suffering that man reaches the very depth of religious experience is not so strongly marked in the *Georgics* as in the *Aeneid*,⁸⁷ although in both, as has been observed,⁸⁸ effort wins through: the farmer through labour wins to prosperity and Aeneas achieves through suffering the consummation of founding the Roman state. The point has been well made⁸⁹ that Virgil possesses "a transcending power by which he links the toils and pains of everyday life with the majesty of inscrutable mysteries and makes them beautiful by association with human affection."

IV

Virgil regarded himself as a Roman Hesiod bringing the songs of Ascræ to his countrymen. In his time "Hesiodic" had come to be synonymous with "agricultural," and agriculture, as we have seen, was *res antiquae laudis et artis*.⁹⁰ With characteristic meekness, Virgil regarded himself as an imitator of his literary models; in so far as he did this with models who were Greek, he was only true to Roman tradition, for the Romans delighted to emphasize their adaptations from Greek literary masters and to surrender to Greek imitation, and often obscured their own originality as a result. It has been suggested that, in this regard, English literature of the eighteenth century, with its French adaptations, offers an interesting parallel—a hint worthy of elaboration. But at all events, Virgil professes

⁸⁵*Ibid.*, p. 67.

⁸⁶Conway: *New Studies of a Great Inheritance*, p. 36.

⁸⁷Bailey: *op. cit.*, p. 317.

⁸⁸*Ibid.*, p. 317.

⁸⁹Conway: *New Studies of a Great Inheritance*, pp. 36-37.

⁹⁰*Geo. II*, 174.

to follow Hesiod, even as he had previously followed Theocritus in his *Eclogues*, and presently emulated the author of the *Odyssey* and the *Iliad* in his *Aeneid*.

Far less, however, does Virgil owe to Hesiod than he does to his fellow-countryman Lucretius, from whom, we have noticed, he differs much in aims and ideals. Lucretius addressed himself primarily to the student-type—always in the minority among mankind. Virgil, who philosophically fluctuates between Stoicism and Epicureanism,⁹¹ felt the attractiveness of Lucretius, principally because of the speculative nature of his writings, but clearly became, as a poet of extreme sensitivity, keenly aware of the absence of that essential warmth of humanism which he experienced in the refined *Cecropius hortulus* at Naples. And accordingly he directs his *Georgics*, not merely to students of philosophy, as Lucretius largely does, nor yet to the simple pedestrian minds which remain satisfied with the hum-drum *sententiae* of a Cato or a Varro or a Hesiod, but to that vast majority of men, who will take instruction only up to a certain point, and to that point only if the subject matter is not too abstruse, and the mode of presentation is interesting and productive of pleasure. In this Virgil appears to be more of a common-sense Epicurean than the austere Roman evangelist of the Epicurean point of view, and far more practical in method, as well as far more interested in spiritual values, than the narrowly didactic Hesiod. To my

⁹¹It is still uncertain whether Epicureanism did not have the greatest influence on Virgil and his humanism. It is traditional to accept, as e.g. Sellar, Conington, Norden and Glover do, that Stoicism was paramount with him in his later years. Others point to his indebtedness to Platonism. In the *Georgics* the best example of pure Stoicism is in Canto four (219-227) dealing with the doctrine that animate creatures possess a spark from the Divine world soul. It is significant that Virgil *does not* make his own the viewpoint that bees share therein. When he deals with the same Stoic doctrine in *Aen.* VI. 724, elements of other schools are presently introduced. Indeed in *Geo.* IV. 219-227 the possibility of the bees sharing in *ti theion* may have come from Aristotle (*Gen. An.*, 3. 10), so that passage would not be free from philosophical contamination. It is clear from an extensive survey of Virgil's philosophical and other material that he is eclectic and primarily a poet: probably he would have subscribed to Horace's observation (*Ep.* I. 1. 14) that he too was *nullius addictus iurare in verba magistri*, i.e., that he was a free-lance in philosophy.

mind, no ancient writer has exemplified better than Virgil the excellent advice of his sagacious poet-friend Horace: *omne tulit punctum qui miscuit utile dulci* (A.P. 343), and nowhere does Virgil's combination of the pleasant and the truly profitable come clearer to view than in connection with his conception of labour and of the value of work, particularly on the land.

Bailey⁹² declares that the *Georgics* are Virgil's hymn of praise of Italy and his prayer for the revival of the simple farm life; Cesaresco⁹³ calls the poem a hymn to labour and also, if rightly read, a hymn to patriotism. The first part is an echo of Dean Merivale's epigrammatic expression that the *Georgics* are the glorification of labour,⁹⁴ on which the cautious Conington⁹⁵ set his seal of approval, and which Verrall, not wont to follow the lead of others, quotes as a matter of course.⁹⁶ Duff varies the wording a little by appraising the poem as an evangel of work.⁹⁷ Perhaps this is why the Ayrshire ploughman regarded the *Georgics* as by far the best of Virgil's writings.⁹⁸ Here the irresponsible effortless ease of Arcadian swains, rarely disturbed by real life, which Virgil, under the influence of Theocritus, had depicted in his *Eclogues* with their soft and gentle wit so attractive to Horace,⁹⁹ has given way to a life of responsibility and care and energetic action such as real husbandmen in an actual rural community must lead. Only occasionally in the descriptive digressions of the *Georgics* does the poet lapse into an idyllic and somewhat imaginary interpretation of life on the land. He does so notably in his rhapsodic identification of the Golden Age with existence in rural Italy.¹⁰⁰

⁹²Bailey: *op. cit.*, p. 29.

⁹³Cesaresco: *op. cit.*, pp. 139-140.

⁹⁴Merivale, C.: *History of the Romans under the Empire*, Vol. 5, ch. 41, p. 102.

⁹⁵Conington, J.: *Virgil*, Vol. I, pp. 158-9.

⁹⁶Verrall: *op. cit.*, p. 620.

⁹⁷Duff: *op. cit.*, p. 449.

⁹⁸Morgan, McKenzie and Osgood: *The Tradition of Virgil*, p. 33.

⁹⁹Horace: *Sat.* 1.10. 44-5: *molle atque facetum Vergilio adnuerunt gaudentes rure Camenae.*

¹⁰⁰*Geo. II*, 173 . . . *magna parens frugum Saturnia tellus.* Varro (L. L. 5) derives Saturnus from *sero* = "to sow." Legends made him king in Latium in the Golden Age; he was also honoured as a God of agriculture and of civilization.

Yet even here he is not without the warrant of legends. Generally speaking, if the prevailing note of the *Eclogues* is *Omnia vincit amor*¹⁰¹ in the idyllic haunts of Arcadian swains, the predominant emphasis in the *Georgics* is *labor omnia vicit*¹⁰² in the actual countryside of Italian husbandmen.

The *Georgics* enforce the idea *passim* that effort must be put forth continually. The right precepts for practice must be acquired, and these must be applied the whole year round. This must be, if the labourer is to achieve the country's crown divine. If the beekeeper must put forth effort, *a fortiori* the ploughman must. It is a case of getting your coat off for ploughing and sowing: *nudus ara, sere nudus* is Hesiodic but fully in accord with the Virgilian viewpoint; press deep your plough behind the groaning ox.¹⁰³ Incidentally good deep ploughing is fundamental to success and Roman in spirit. Cato when asked what was the first principle of agriculture answered "To plough well." When asked what the second was replied "To plough again." To be careless of the tillage of the land was an offence incurring the Censor's ban; on the other hand, there could be no higher praise than to call a man a good husbandman.¹⁰⁴ To get the land ready involves manifold tasks; if you do not work you will have to go back to the acorns of the aborigines for your food—this we may take as an instance of Virgil's gentle humour. Elsewhere the poet speaks of stubborn lands, churlish hillsides, thorny fields, and ferns by the curved plough detested; also of plodding steers, the husbandman in spleen, of stiff ridges and reluctant clods. The delver's toil is untiring as he stirs up the loosened glebe. While those whose vigilance no care escapes, find plots as nurseries for trees, and places to which to transplant them in due course. The farmers must ply up and down with their labouring oxen through the vineyard's midst. The business of the oxen is to cleave the ground, and into ridges tear and turn the soil, and when the oxen are full-grown, they

¹⁰¹*Ecl.* X, 69.

¹⁰²*Geo.* I, 45.

¹⁰³*Geo.* II, 401-2; I, 168; IV, 112-4; I, 99; 299; 45-46.

¹⁰⁴Marshall, F. H.: *A Companion to Latin Studies*, ed. by J. E. Sandys, p. 213.

must strain at the pole, to pull the creaking, well-loaded wagon.¹⁰⁶

These are some of the outstanding passages in the first three books of the *Georgics* bearing on the need of arduous effort on the part of man and beast in the annual round. In the Fourth *Georgic*, dealing with bees, the same point is emphasized; like the farmer, the keeper of bees must learn his lessons and must apply them if he is to succeed. Possibly the poet is here speaking from personal experience on his father's farm. His enthusiasm is directed towards the unflagging toil of the bees, their industry, their intelligence, their co-operation and their patriotic zeal for their tiny commonwealth. The passage on the bees shows particularly that, while labour is a condition of individual happiness, or at least contentment, it is only in the permanent greatness of the community that its ultimate recompense is to be sought.¹⁰⁶ The commonwealth of the bees, like the Ideal State of Plato's *Republic*, is founded on a community of interests, and employs a division of labour in accordance with individual abilities. The entire organization is "a tiny type of giant industry," described, on the whole,¹⁰⁷ in Virgil's happiest manner.

Sometimes the work to be done is decidedly unpleasant but Virgil admonishes you to endure it: Stint not to strew refuse or foul ashes over the exhausted fields. This is like Cato's third admonition: "apply fertilizer." Again, the killing of snakes may be needful or festering ulcers on the flock may require lancing: to do this is more practical than to wait on help from heaven.¹⁰⁸ This last idea is significant on the lips of the pious Virgil. Elsewhere he exhorts the husbandman to worship.¹⁰⁹ Indeed Tyrrell has rightly observed that *ora et*

¹⁰⁶*Geo. I*, 104-117; 155-9; *II*, 179-180; 189; 206-7; 236; 264; 265; 356-7; *III*, 160-1; 172-3.

¹⁰⁶Sellar: *op. cit.*, pp. 275-6.

¹⁰⁷E.g. *Geo. IV*, 86-87, some commentators cite as an instance of pathos. It is, however, more in keeping with Virgil's general playfulness in the *Georgics* and especially in dealing with the bees to regard it as mock-heroic and humorous.

¹⁰⁸*Geo. I*, 79-80; *III*, 420-434; 447-456.

¹⁰⁹*Geo. I*, 338-9; 343.

labora might well be the motto of the *Georgics*,¹¹⁰ because therein both are emphasized. But well does Virgil know that the gods pre-eminently help those who help themselves. However, despite all efforts, there are numerous handicaps for the husbandman, and Virgil's own observation has shown him that loss often comes about wholly undeserved and in a manner utterly beyond human control; storms may ruin the crop ready for cutting, sickness may befall the flocks and herds. It is a sad thought that youth and vigour fly so fast from man and beast. Yet, Virgil knows, cessation of effort involves slipping back, and matters left to themselves degenerate.¹¹¹ The saddest experience in the life of the husbandman is the death of his plough-ox, his sturdy loyal ally, when a raging *Rinderpest*¹¹² strikes down one of his oxen at the plough. There is crass injustice in the sad business, and the sympathy of the poet arouses in him an unwonted vein of irony when he contemplates the honest, simple life of the plough-ox in contrast with the tortuous, complex life of guileful men in over-sumptuous cities.¹¹³ Of Virgil's well-known melancholy¹¹⁴ there is, however, very little in the *Georgics*. Indeed wonder has been expressed that with such

¹¹⁰Tyrrell, R. Y.: *Latin Poetry*, p. 154.

¹¹¹*Geo. I*, 118-121; 181-6; 316-321; *III*, 478 foll.; *I*, 193 foll.; 199-203.

¹¹²*Geo. III*, 478-566.

¹¹³*Geo. III*, 517-530.

¹¹⁴In the *Georgics* (e.g. *Geo. I*, 41, *ignarosque viae mecum miseratus agrestes*) Virgil shows something of Dido's sympathetic, sad tenderness (*Aen. I*, 630, *non ignara mali miseris succurrere disco*) but there is nothing in them to match the ineffable melancholy of: *Sunt lacrimae rerum et mentem mortalia tangunt* (*Aen. I*, 462). In Virgil's pathetic and melancholy reflection on the death of the plough ox (*Geo. III*, 525-530), the main ground for his melancholy is Stoic, not Epicurean (see note 91 *supra*). While the latter's melancholy is due to his finding the bitter dregs, the *amari aliquid*, of the cup of pleasure, the former's is due to associating with the natural order a *virtus* that on experience proves illusory; he discovers that living *secundum naturam* does not eliminate the ethical indifference of the natural world. Virgil's melancholy was perhaps prompted more by extreme sensitiveness of spirit rather than by philosophic perplexities and, in his later years, accentuated by physical ailments; indeed he was never robust and seems to have inherited a tendency to consumption, according to the ancient Life. Hence there is reason to believe that in the writing of the *Georgics* Virgil was more at one with himself as well as his art, than when later composing the *Aeneid*.

a consciousness of human misery Virgil could write a poem of such enduring happiness as the *Georgics*.¹¹⁶

V

In his explanation of the origin of the necessity of work, Virgil diverges most widely from his professed model Hesiod, the author of the *Works and Days*, a miscellany of myths, technical advice, moral precepts, and folk-lore maxims combining to show how men may best manage in a difficult world.¹¹⁶ Hesiod regards the passing of the Golden Age as a punishment inflicted by the Gods. Virgil's view is nobler: labour is a Heaven-sent dispensation for the development of mankind.¹¹⁷ Through Jove's law of labour man overcomes the earth and becomes supreme;¹¹⁸ need has brought us into touch with our environment and established the greatness and the worth of man:¹¹⁹ "mankind," continues Glover, "like the Happy Warrior, has turned necessity to glorious gain."

It is the perversion of this divinely-assigned ordinance of work and the overthrow of life on the land, brought about by Civil wars and degenerate days, that have caused the supreme calamity of the world,

"Here where the wrong is right, the right is wrong,
Where wars abound so many, and myriad-faced
Is crime; where no meet honour hath the plough;
The fields, their husbandmen led far away,
Rot in neglect, and curved pruning-hooks
Into the sword's stiff blade are fused and forged."¹²⁰

What a true picture this is of our modern world, particularly in its ruinous emphasis on armaments at the expense of the peaceful natural life on the land!

The keyword of Hesiod was: "Stick to your work" for "by working, men are better loved by the immortals".¹²¹ It is on

¹¹⁶Glover: *op. cit.*, pp. 304-5.

¹¹⁶MacGregor, Marshall: *Leaves of Hellas*, pp. 16-17.

¹¹⁷*Geo. I*, 121-4; 133-6.

¹¹⁸*Geo. I*, 145-6.

¹¹⁹Glover: *op. cit.*, p. 294.

¹²⁰*Geo. I*, 505-8, translated by James Rhoades.

¹²¹Hesiod: *Works and Days*; pp. 297, 309.

the incessant necessity of work that he insists, not on its fruits, nor on the charm of the circumstances in which it is emphasized, nor yet on the delight inherent for its own sake in work well done. A bare existence has to be wrung by labour, amid many risks, from the reluctant soil.¹²² Virgil has the language of effort on his lips and a love for the task in his inmost heart. It is akin to the attitude of mind and heart of a certain westerner who lay on a sick-bed in New York: I quote a paragraph from a paper called "Our Need of the Classics":¹²³

"In New York, a young man, born out upon the prairies was lying as it was thought, near to death, in a hospital. He turned to his nurse and asked what month it was. She answered that it was early in May. He thought of the prairies glorified to him by Horace's Odes. He heard the frogs in the swales amid the virgin prairie flowers, as Aristophanes had heard them in the ponds of Greece. He saw the springing oats in a neighbouring field that should furnish the pipes for the winds of Pan. He saw, as the dying poet Ibycus, the cranes go honking overhead. And he said 'I can't die now. It is ploughing-time.'"

VI

It is this spirit in Virgil that transforms the necessity of toil into the joy of labour. The poet's enthusiasm springs to view at the beginning of each of the *Georgics*. In the first of these, the joy of work at the plough and the bounty of the soil are set conspicuously alongside of the necessity for labour.¹²⁴ Elsewhere the excellent fruits of effort are more fully emphasized. The joy and the gainfulness of the work are as contagious as in a simile of Shakespeare's on the same theme.¹²⁵ In his eager

¹²²MacGregor: *op. cit.*, pp. 16-17.

¹²³Finlay, J. H.: *Our Need of the Classics*, p. 4.

¹²⁴*Geo. I.*, 43-9.

¹²⁵Shakespeare: *King Henry V.* 4. 1. 289-294.

But like a lackey, from the rise to set
Sweats in the eye of Phoebus and all night
Sleeps in Elysium, next day after dawn
Doth rise and help Hyperion to his horse,
And follows so the ever-running year
With profitable labour, to his grave. (continued on p. 240)

haste Virgil throws out a hint of a Fifth *Georgic*, to deal with Gardens,¹²⁶ a suggestion on which Columella acted with some success.¹²⁷ He has been favourably compared with Thomson, the singer of the *Seasons*.¹²⁸ Incidentally, the poet generally assumes that his readers are imbued with an enthusiasm like his own for "the country's crown divine"; hence it rarely occurs to him that the *minutiae* of his teaching may prove tedious. He is rather astonished, too, if men are loth to put forth the requisite effort, or are indifferent. To the honest workman the earth renders his due in abundance; nay, of her own accord, nature adds to his store.¹²⁹

The gladness of nature emerges in the very first line of the *Georgics*: "What makes the cornfield smile" . . . and the poet's eye sees gladness and his heart feels joy in the lowest to the highest forms of life. The recurrence of the epithet *latus* is outstanding in this connection: the sward is happy; even the garden-pulse is worthy of it; with crops it becomes a stock epithet, and it is applied of course to the cornfield itself. Living creatures, too, share in this gladness; the rooks somehow feel it; the cattle share the exultation; sailors reaching haven are, of course, in that mood also. These instances, it will be noted, are all from the First *Georgic*,¹³⁰ where the life of the farmer is the main theme. Another epithet *pinguis*, emphasizing the fruits of toil, is likewise important in this connection. In general, Virgil poetically ascribes life and feelings to things,

¹²⁶*Geo. IV*, 116-124; 147-8.

¹²⁷Columella wrote *de Re Rustica* in twelve books of which the Tenth, on Horticulture, is in hexameter verse.

¹²⁸Bucler, H. E.: *Post-Augustan Poetry*, p. 146 foll. Thomson put into English dress in his *Seasons* many passages from the *Georgics*. Though Phillip's *Cyder* and Dyer's *Fleece* are perhaps "the best known of the professed imitations of the *Georgics*" (Lonsdale and Lee, *The Works of Virgil*, p. 31), "in Thomson's *Seasons* and in other important poetical premises of the Romantic movement, the *Georgics* play a determinant part" (Morgan, McKenzie and Osgood, *op. cit.*, p. 33).

¹²⁹*Geo. I*, 176-7; *II*, 433-4; 460; 500-1.

¹³⁰*Geo. I*, 339, 74; 1; 69; 101; 325; 102; 412; 433; 304; 301.

Cf. Shakespeare: *Third Part of Henry VI*. 2, 5. 21-50, for a eulogy of the *dolce far niente* of the Shepherd's life in England, akin to that of Virgil's *Eclogues*.

and of these his epithets are frequently those of personality.¹³¹ In the same vein his figures of speech are frequently fashioned. His metaphors are normally military, not only in reference to natural phenomena¹³² but when he is describing man's assertion of his sovran might over the soil: *imperat arvis*¹³³ is a typical example and numerous others from the First *Georgic* alone might be added. To speak of the application of the Roman *imperium* to the soil¹³⁴ after successful conquest was very natural for the Romans, whose god Mars had primarily been their god of husbandry and rural life.¹³⁵ In his similes, too, his art merits attention; some are military, others subtly combine the elements of utility and beauty.¹³⁶

Seeming handicaps or difficulties in the life of the husbandman may be overcome and even turned to pleasure or profit.¹³⁷ In a passage already mentioned, Virgil recalls his acquaintance with an old gardener at Tarentum; he affords an excellent instance of apparent defeat turned to certain victory. Being originally a Corycian pirate¹³⁸ he had been compelled by circumstances to settle down in Italy. Squatting on a few acres of seemingly useless soil—worthless for ploughland, pasture or vineyard—the ex-pirate by dint of application and skill made his unpromising plot a place of utility and beauty and so earned for himself, not only aesthetic satisfaction, but also the abiding contentment which arises from the sense of independence earned by industry.

¹³¹Duff: *op. cit.*, p. 452.

¹³²E.g. *Geo. I*, 318 (*ventorum proelia*); 322 (*agmen aquarum*).

¹³³*Geo. I*, 99.

¹³⁴Sellar: *op. cit.*, p. 268; Duff: *op. cit.*, p. 449.

¹³⁵Invoked as such in the formal prayer of husbandmen, cited in Cato's *de Re Rustica*, 141, and also acclaimed in the ancient hymn of the Arval Brethren, still extant. For a brief review of the reasons for Mars being an old agricultural deity cf. W. Warde Fowler's *The Religious Experience of the Roman People*, p. 132.

¹³⁶E.g. *Geo. III*, 343-8; *II*, 279-287; 293-7.

¹³⁷*Geo. I*, 259 foll.

¹³⁸Subdued by Pompey operating under the Gabinian Law of 67 B.C. and compelled by him to settle in one of the small rural colonies for captives (T. Frank: *History of Rome*, p. 255). That this ex-pirate reappears in Claudian's *Old Man of Verona* (written in the beginning of the Fifth Century A.D.), as Sikes (*op. cit.*, pp. 131-2) is inclined to think, seems far-fetched and not supported by the passages in question.

Italian love of singing at one's tasks shows forth here and there in the *Georgics*. If a man must do some work by night, his wife, busied about her domestic chores, may keep him company and blithely sing. Then again, there is the joyful singing that marks the completion of the work in hand. In honour of the gods, too, the husbandmen sing, particularly invoking Ceres, or calling on Bacchus as they are about their rural sports and festivals.¹³⁹ In short, the happy-go-lucky singing of the *Eclogues*¹⁴⁰ has now, in the *Georgics*, become the natural accompaniment of happy preoccupation and of spontaneous worship of the deities who, by their pleasing aid, deserve well of the grateful farmers.

In winter, Virgil says, the husbandmen pre-eminently reap the fruits of their toil. Although some tasks still remain for this season, the poet does not chime in with Hesiod, who discouraged the countryman from joining in winter the idle gossips that congregate in the local blacksmith-shop.¹⁴¹ To him such conviviality is unprofitable. Virgil approves of such social gatherings and of convivial merriment. Even the shepherds in distant Scythia have their merry times in the midst of winter.¹⁴² Virgil is here really depicting Italian country life in winter on a lower level, for the blessings of Scythia cannot of course match those of Italy. But then no other land, however blest, can match the charm and bountifulness of Virgil's. Hesiod curses the land to which his father went from Aeolian Cyme.¹⁴³ Contrast with this the famous passage in the Second *Georgic*¹⁴⁴ wherein Virgil sets forth the glories of his homeland as a lover might count the perfections of his mistress.¹⁴⁵

It is noteworthy that from his eulogy of the land Virgil proceeds to praise the men who made it great: the sturdy men of the plains and hills, who in the dark days of war, took up the mantle of military leadership, and with their inflexible tho-

¹³⁹*Geo.* I, 291-6; II, 417; I, 346-7; II, 386, 393.

¹⁴⁰E.g. *Ecl.* IX, 64.

¹⁴¹Hesiod: *op. cit.*, 491-2.

¹⁴²*Geo.* I, 299; III, 376-380.

¹⁴³Hesiod: *op. cit.*, 636-640.

¹⁴⁴*Geo.* II, 136-176.

¹⁴⁵Lang, Andrew: *New and Old Letters to Dead Authors*, p. 175.

roughness and unyielding endurance, overcame their adversaries, even as they had vanquished their difficulties from day to day. Later, in the same canto, Virgil returns to this cherished theme¹⁴⁶ and proceeds to show the superiority of rural life as compared with the corrupt life of ease and luxury in crowded cities. He condemns the over-citied age and reasserts the industry, purity and joy of rural folk. He closes with a splendid passage depicting the preoccupations and pleasures of the husbandmen; such was the early life of the Italian race, such was life in the Golden Age when Saturn the agricultural god was the sovereign of Italy, such was the life of the men who made Rome, the fairest thing in the world.¹⁴⁷ Thus ethical and patriotic notes gloriously peal forth in Virgil's grand finale to his anthem of praise in honour of country life. The husbandman is the bulwark of morals, the guardian of true happiness; on his life of frugality, industry and glad energizing the stability of the state rests. In his response to the *haud mollia iussa* of Maecenas, Virgil dowered mankind with "an everlasting possession."

VII

In these days of intense national feeling and international discords, some persons perhaps might ask: "What is Italy to us and what are we to Italy?" or again, more appreciatively: "What possible boon can the greatest singer of that ancient land bestow on us in our newly acquired western world?" As to the first query: fortunately the feuds and enmities of sovereign peoples do not abide eternally; and even if the modern world were irretrievably sundered by discords, the gigantic figures of the old Graeco-Roman world stand clear from the clouds which mar our nearer vision, to be still our monitors and guides. As to the latter: we in Canada need a Virgil, even as ancient Italy stood in need of him, not so much of the singer of the *Eclogues* and the *Aeneid*, as of the *Georgics*.

¹⁴⁶*Geo. II.* 458-474.

¹⁴⁷*Geo. II.* 534.

Pastoral ease has not perhaps been overemphasized in our Canadian singing—indeed how could it ever be amid the hurry and bustle of our modern days? — but in their vignettes of almost idyllic beauty and charm, our bards have, I think, paid adequate tribute to aspects of our cherished Canadian scene. As to an *Aeneid*, may some day, not too far distant, a Canadian singer arise, to celebrate in epic strains the acquisition of our Western land, and to do full justice to the diverse racial elements which here are coalescing to form a Canadian nationality! If to some this process seems arduous and slow, let them recall that so it was with Rome and Italy: *tantae molis erat Romanam condere gentem*.¹⁴⁸ We too are setting up, our historians inform us and so too we feel, a no mean commonwealth; well might the *Aeneid* of that achievement outshine the *Iliad*.¹⁴⁹ Our immediate as well as our abiding need, however, seems to be for the singer of the *Georgics* to bring home to one and all—to those in authority as well as those who are more humbly placed—in the aesthetic manner given only to genius, the axiomatic truth that individual effort is essential to real and lasting happiness. The natural corollary to this is that, no matter what the outward form of the state organism may be, it is of supreme national importance that individual energizing be given ample scope, i.e., that nothing under heaven be left undone to provide all men with opportunities to work and to reap the joy and the rewards of their labour. Only in this way can men realize their potentialities as persons and attain to their full measure of citizenship in a free commonwealth. Virgil is the advocate of individual enterprise and the apostle of spiritual values; he beckons back to mother Earth for a richer, fuller life for men, wherein the entire social organism may attain to its *summum bonum*. Whether his viewpoint can in practice prevail and solve, in a measure, the perplexities of our more complex society may be a matter of dispute. All however will agree that it is, and will remain, peculiarly true of his *Georgics* that “the

¹⁴⁸*Aen.* I. 33.

¹⁴⁹Cf. Propertius: *II*, 34, *nescio quid maius nascitur Iliade* (of the *Aeneid* in the making, c., 25 B.C.).

poetry of earth is never dead" for—to quote Keats¹⁵⁰ again—"a thing of beauty is a joy forever." It is equally true of this masterpiece on rural life that "its loveliness increases" the more we meditate upon it.

¹⁵⁰Keats: *On the Grasshopper and Cricket*: 1; *Endymion*: I, 1-2.

THE RELIGIOUS CONVENTIONS IN FRENCH EPIC POETRY OF THE MIDDLE AGES

C. M. JONES

THE study of popular religious belief and practice must always, in the last resort, be closely related to the study of the literary and artistic productions which find favour in the eyes of the generations under observation. It is nowadays a common-place of criticism to repeat that literature must, to some extent at any rate, be an echo, a reflection of the culture and the civilization of the people for whom it is written. The great writer will always be unable to withdraw himself completely from the task of interpreting, even involuntarily, what is most intimate and characteristic in the beliefs of the society which he chooses as the illustration of his artistic ideal. He is unable to take flight on the wings of his imagination alone without losing in some degree that connection with reality and life without which his work will generate only sterile thoughts. And in the century in which the nobility of the social ideal corresponds most intimately with the fundamental characteristics of the race, in that century only will genius be able to produce works of art of the very highest order. Great literature can only with difficulty be divorced from reality and life as it is lived. Rabelais, Shakespeare, Goethe, Racine, Diderot, Proust, are all to a certain extent interpreters, in whose work is still discernible the breath of life animating the societies in which they lived and wrote.

This point of view has been held a little too exclusively in regard to the study of the Old French epic songs, the songs of geste, by critics who have used them as almost the only source books for the study of medieval society.¹ It will be the

¹Cf. Ch.-V. Langlois, *La société française au XIII^e siècle d'après 10 romans* (1911);—*La Vie en France d'après les romans mondains du temps* (1924). Méray, A.: *La Vie au temps des cours d'Amour, croyances, usages et mœurs des XI^e, XII^e, et XIII^e siècles, d'après les chroniques, gestes, jeux-partis et fabliaux* (1876);—*La Vie au temps des Trouvères* (1873).

object of this article to discuss, within a very limited range, to what extent these studies should be taken seriously. Are we at liberty to find in these old songs the faithful reflection of a civilization to which antiquity in time has lent so many romantic characteristics? Are the *trouvères* who wrote them the faithful interpreters of medieval culture and ideals? Or is another explanation possible, an explanation which may tend to limit the realism of these songs and to throw into greater relief their connection with that same epic tradition which even nowadays has not ceased to exercise its charm and to invite imitation?²

There is no doubt that the centuries since their composition have thrown over these poems a veil of romance, which, when it is added to our very slight knowledge of the facts concerning their origin and meaning, has greatly favoured the development of a long series of explanations by means of which scholars have sought to find in them precisely those things they have wished to find. Some have seen only the reflection of the piety and religious fervour of the people of the eleventh-thirteenth centuries, and have attributed their composition at once to monks. Others have seen only their military side; for them the songs are primarily war-like stories, quite in keeping with the rude civilization of the age, in which the force of arms is used in the service of a missionary Church. The songs then seem to be little more than propaganda for the crusades. For others they are the spontaneous reflection in poetry of the whole intimate soul of a people, with all its hopes and fears, its beliefs and practices reflected as in a mirror. They are the naïve amusements of a simple race, careless of actively assisting in propaganda for Church, crusade, patriotism or local political interests. These are the sociologists, who accept every practice, belief, custom, of the heroes of the songs of geste, which for them become documents of sociological and historical value. "Elles nous offrent presque à chaque vers la constatation simple et naïve, sans affectation, sans apprêt, de la croyance universelle des siècles pendant lesquels elles ont été

²Willemotte, Maurice: *Le Français a la tête épique* (1917).

écrites."⁸ . . . "Il sera curieux de relever le nom des Bienheureux qui sont le plus souvent invoqués ou sur les reliques desquels on prête le plus de serments. On verrait par là quels étaient au moyen âge les saints les plus véritablement populaires."⁴ "Aussi quand nous portons un jugement sur les chansons nous sommes convaincus qu'elles représentent les idées idéales, les ambitions, les habitudes, de la société qui comptait en France du XI^e au XIII^e siècles."⁶ . . . "Les chansons dans leur ensemble sont des poèmes réalistes avec un côté religieux."⁸

Before replying to these very provocative generalizations, let us examine the songs from another point of view. They can, in general, be classified according to three main types. The poems in which a war or series of wars is waged against infidels or against a rebellious vassal; the poems in which one or more sieges are laid against rebellious or heathen towns; and lastly, the poem which is more or less the biography of some young, heroic, Christian knight. This lack of variety in the general themes used and the very obvious connection of these themes with those always associated with epic poetry of all ages, become much more striking when we consider the episodes of which they are composed. There is here a complete lack of that originality of conception and invention which alone would be capable of taking them out of the conventional framework indicated by the general choice of the theme.⁷ The poets have used, generally speaking, the old traditional epic themes in new forms. The breath of Christianity has transformed them, but has not changed the elements out of which they are constructed. Their authors have con-

⁸Gautier, Léon: *L'idée religieuse dans les Chansons de geste* (1894), p. 118.

⁴*Ibid.*, p. 155.

⁶Dickman, A. J.: *Le rôle du surnaturel dans les chansons de geste* (1926), p. 6.

⁸*Ibid.*, p. 164.

⁷The legend of Vivien, for example, is exactly copied from that of Roland; see Jeanroy, *Note sur la Légende de Vivien*, Romania, XXVI (1897), p. 204. Cf. "Les auteurs sans aucun scrupule se sont emprunté les matières, les formes, les ruses de métier; ils ont pillé les vieilles chansons et les ont renouvelées", Dickman, *op. cit.*, p. 4.

fined themselves to including in the story an interminable series of standardized incidents which are not only repeated endlessly, but described in language of a very stereotyped character. There are duels in which prodigious blows are exchanged, battles which are merely a succession of these same duels, threats and greetings exchanged in identical formulae between enemies and friends, long standardized prayers calling on the aid of God, a vast number of oaths, invocations to God and the saints, devised according to a certain easily perceived pattern, conversions, baptisms, miraculous rescues by Sarrasin maidens, pilgrimages, divine interventions, and so on, all of which are inserted at fixed points in the story and can be anticipated by a reader familiar with a large number of the poems.

The conventions governing the composition into stories of these various episodes are fixed, though elastic. Arriving at a given point in the narrative, the *trouvère* is obliged by the epic tradition to develop his theme in one of a small number of known ways. During a siege there must be several sorties during which one of the heroes is extricated from some danger with the greatest difficulty; if possible the enticements of a Sarrasin lady must be used at this point. The course of a judicial duel is very definitely marked out into a series of standardized episodes. The great hero must, in the course of his adventure, fight a splendid duel against a worthy Sarrasin opponent; it must begin with an appeal to conversion and be interrupted by a discussion of the merits of the Christian and pagan religions. The hero must, when faced with an extraordinary danger, recite a long prayer of a rather special kind. When news of events taking place at a distance is required, a pilgrim coming from those regions must opportunely bring it along. The heroes must constantly swear solemn oaths; they must fall in love, sight unseen very often, with important Sarrasin maidens. When a hero wishes to express his sorrow at the course of events, during a siege, he must go to a window, his face must change colour and his eyes fill with tears. And so on. A combination of any

number of these well-worn and traditional episodes will result in a song of geste.

But more than this; each of the episodes is related in language of a very formalized character. On greeting the king, there are set formulae to be used. When a hero wishes to pray, or to swear an oath, or to call in the aid of the saints, he must do it in a certain way, whether he be a Christian or a heathen. Idiosyncrasies of language are to be avoided; indeed, they are unnecessary because the formula is always ready to take care of any emergency. To compose a song of geste the *trouvères* apparently only had to make a choice from a number of incidents and adventures definitely circumscribed by popular usage to attach them to one of the great epic story forms and then to elaborate them at great length by adding an entirely conventional *décor* made up of traditional descriptions and poetic tags.

It is easy to support the truth of this view of the epic poem in France by taking at random almost any leading episode from any one of the songs, by finding the number of times it is used in some form in other songs and by comparing the internal construction of the episode and the language in which it is presented. It is possible to go one stage further and to compare the essential elements which go to make up a great many of these episodes with similar episodes to be found many times related in the classical epics and in medieval saints' Lives.⁸

If this view of the composition of the songs is accurate, it will at once be clear that their value as sociological documents will be seriously affected. For we can no longer continue to accept these, for the most part, standardized and traditional episodes as an accurate and complete picture of popular customs and beliefs. To say that the people of the middle ages were credulous enough to accept these fictions and to delight in them is not to say that the fictions themselves

⁸Wilmette, M. Maurice, *op. cit.*, has made some very interesting comparisons of this kind. His studies were confined, however, to the investigation of the continuity of epic themes from classical to medieval times.

represent the sum of popular belief in these centuries.⁹ Just as it would be untrue to say that our present-day civilization is accurately and completely represented in the entirely comparable detective story or the film scenario. It is true that the poems, the detective story and the scenario do contain elements which reproduce certain phases of our society, that they do reflect popular tastes and even ideals, but they reproduce and reflect them in a distorted form. Each has its set of conventions, which are more frequently inaccurate than accurate, but which by custom we are ready to accept and forgive. The impressions which they can give must be compared with documents of a more scientific character.

When this comparison has been made—and I do not intend to enter into this side of the problem—we find an undoubted similarity between the world of Froissart, Villehardouin, the chroniclers of the crusades, compilers of church chronicles, and the general impressions given by the *trouvères*. But the fact remains: even if the earliest poems may have been composed from direct observation of the society for which they were intended—even this is very doubtful, as we shall see later—the majority of those we have, soon lost all contact with reality. They represent a society, a civilization, a set of popular beliefs entirely conventionalized and fashioned after a traditional model which very early must have become inseparable from the epic ideal. They take on the appearance of artificial epics composed from an endless series of poetic recipes, like Ronsard's *Franciade*, for example. They represent nothing more than themselves. Their authors were in general little more than facile practitioners of a genre whose rules and limitations were set by tradition. They were imitators, devoid of original inspiration, masters of an art which is governed almost entirely by fashion and tradition.

⁹That belief in the veracity of these songs, and chronicles even, was not as complete as we have been given to understand, may be inferred from the frequency with which poets felt obliged in their Introductions to insist that they are telling a *true* story, while at the same time accusing their rivals of being sheer romancers. Thus even in the middle ages the songs may often have been regarded as mere amusements, not to be taken too seriously.

I propose to confine myself to the study of one aspect of this question only: the rôle played by the conventions pertaining to religion. Religion seems in these poems to have penetrated into every phase of human activity and to have animated with a missionary zeal the warlike fervour of these simple, profoundly Christian knights. If the stories are in any sense the continuation and counterpart of the older epic poems, then they have been profoundly changed by the spirit of Christianity by which they are pervaded. They tell no longer of wars and battles and sieges alone, but of expeditions undertaken primarily for the glorification and extension of the temporal kingdom of God. Within their limited scope the knights are soldiers of Christ as much as they are soldiers of "*la douce France*", conquering territory as much for the glory of God as for more selfish reasons. The Christian knight's duty, as the *trouvère* understood it, is above all to join in the crusade against the enemies of God: *Fors vous, beau sire, nul droit seignor n'abvom—Fors damné Dé* (Aq. 107)¹⁰. The service of God and the service of the king come always to mean the same thing. And the crusade is the perpetual theme: *Quar Elies ses peres li avoit dit* (to Aiol)—*Qu'il se penast toudis de Dé servir;—Chil cui Dex vient aidier n'ert ja honis* (A, 2227). All their honours and victories and conquests are attributed not to chance, not even to their own prowess, but to God. Doon cries that he is about to capture the town of Vaclerc: *... pour nulle cruauté—Ne pour grant tere avoir, que j'en ai à plenté,—Fors pour aler sus cheus qui tiennent en vilté,—Qui ne croient en Dieu ne en sa déité* (DM, 6987). On every

¹⁰I have used the usual abbreviations for the names of the songs quoted. Here is the full list of the songs on which my conclusions are based. B: *Berthe aus grans piés*; SB: *Siège de Barbastre*; PC: *Prise de Cordres*; OB: *Orson de Beauvais*; MA: *La Mort Aymeri*; A: *Aiol*; Aq: *Aquin*; RM: *Renaud de Montauban*; CV: *Li Covenans Vivien*; PO: *Prise d'Or*; ange; CN: *Charroi de Nîmes*; Sa: *Chanson des Saisnes*; AN: *Aymeri de Narbonne*; Fi: *Fierabras*; Og: *Chevalerie Ogier de Danemarche*; GV: *Girard de Viane*; CL: *Coronemens Looys*; FB: *Floire et Blanceflor*; AA: *Aye d'Avignon*; GN: *Gui de Nanteuil*; DM: *Doon de Mayence*; ChV: *Chevalerie Vivien*; W: *Chanson de Willame*; Y: *Yon*; RC: *Raoul de Cambrai*; MG: *Moniage Guillaume*; R: *Chanson de Roland*; AC: *Anseis de Carthage*. The editions used are the standard ones.

page of every song of geste, the name of God or of His saints is invoked with the accompaniment of some rather beautiful and picturesque epithets.

Long and complicated prayers for assistance are continually ascending from the lips of these pious knights. Every morning, without fail, and before attending to any other duty, they hear mass. At the capture of a new city, the first duty is the forcible conversion of the heathen, the next the building of churches. Even during the campaigns themselves, the holy relics are carried by a regular army of priests and solemnly brought out for special observances. The death of a Christian hero is the occasion for the most solemn of religious ceremonies; the fear of death, before a battle for instance, is provided for by general and solemn communion of the whole army. The roads abound with pilgrims and the stories with pilgrimages. Every incident, in fact every turn of the epic story, is sanctified in some way by the religious ideal which seems to have inspired its composer.

Is it not then entirely reasonable to infer that these stories must reflect an intense interest in piety on the part of those who flocked to hear them recited; and also that the pious idealism of the stories must at least in some measure be the reflection of the Christian idealism of the age, of its customs and its practices?

As soon as we examine these allusions, or even the spirit which animates their pious elements, we are surprised to find a constant and monotonous stamp of conventionality regulating all their details. The reading of one or two songs will leave an impression of the sincere faith of a naïve and credulous people. But after studying thirty or forty of them, this impression will at least be modified. Their piety loses much of its apparent significance and no longer appears to be the product of a close observation of the practices of real life; it takes on a formalized and less spontaneous character. For the same few saints, the same invocations, prayers, miracles, feasts, ceremonies, pseudo-pious interjections are introduced at points which, we feel, have been especially contrived to receive

them. The same religious apparatus is not merely repeated indefinitely, but repeated in the same form and at similar points in the story, using a series of formulae which rarely vary from a few standardized models. It will appear that we have to reject any explanation which makes of the poets the faithful interpreters and illustrators of a Christian idealism pervading the civilization of the people about whom they are writing and before whom they recite their poems. The songs are not so much the artistic embodiment of a careful and accurate observation of a highly Christian society as the work of a school of popular writers anxious to please and who found that pleasure is chiefly derived by the people from the constant iteration of a small number of traditional and wonderful literary formulae which they learn to understand and expect.

* * *

Let us examine in detail three aspects of these conventional epic traditions—God, the saints and prayer.

Nothing in the religious decoration of these songs is more striking nor more picturesque than the countless invocations addressed to God and the saints. The allusions are so frequent, occurring as they do on every page of the songs, that they have been used as the basis for studies in the popular conception of the Deity and His attributes during the middle ages. It is a naïve, simple faith, which in every situation calls on the assistance or the witness of God, uses His name constantly in ordinary conversation and expects immediate results from these supplications. He is always near at hand, His name is never far from their lips, and He usually accedes without delay to the requests of His faithful followers.

But in the songs the name of God very rarely occurs by itself. It is accompanied by an epithet, a picturesque phrase, a biblical tag. Léon Gautier went into ecstasies of mystical delight when he considered the untutored artistry of some of these descriptions. *Dieu l'esperital*, for instance, is for him a living testimony to the simple beauty of a faith which the poet has so admirably observed and faithfully recorded in his

songs. There are hosts of others, all equally beautiful, equally expressive. But the reader who has read a score or more of these songs finds himself a little disconcerted at the hundreds of occasions on which *Dieu l'esperital* and all the others are repeated, not merely in all the songs, but in each separate one. He is reluctantly forced to the conclusion that these epithets and this cult of the Deity have a very different significance from that which appeared so obvious on reading his first song. Far from being the spontaneous and sincere inventions of poets reproducing what they have observed to be the natural and ordinary forms of popular religion, these epithets are little more than literary flourishes, conventions having their carefully estimated values. An epic poem never attempts to relate a simple story in as short a space as possible. Epic poetry must arouse a sense of wonder, of admiration, a feeling of being in a world which surpasses our own but is not so far removed that it becomes unreal. The epic poet deals with sublimities, things raised to a mystic level in which everything becomes ideal. In order to develop this atmosphere, the epic poet practices the legitimate device of *délayage* and ornamentation. He delays his story by introducing episodes, conversations, musings, literary decorations. The epithets we are dealing with are one form of decoration, of "padding". They never occur at the beginning of the line, always in the second hemistich; they help to give it its proper length and enable the poet to continue without committing the sin of *enjambement*, of running the sense too freely from one line to the next. They are for the most part pure conventions and conventions which existed from the time of the earliest poems. They are already in profusion in the *Roland* and the *Chevalerie Vivien*, and they are hardly less frequent in these early poems than in the latest ones.

The only control over their use and frequency is that dictated by the poet's own genius. The Song of Roland, unlike most of the songs of geste, is the work of a great poet who, in a language exempt from prolixity, has written lines which seem to have been poured spontaneously from his heart, lines whose

sheer beauty comes from the ardour of his inspiration rather than from the mechanical perfection of his talents as a versifier. When he calls on the name of God, when he addresses one of his protecting saints, he does so because of the essential needs of his poetic idea; and he consequently does so more rarely. The religious apparatus of the Song of Roland is strictly necessary to the artistic conception which the poet had of his subject and his characters. But nevertheless, the same epithets and circumlocutions taken from the common stock are to be found in his work. When we come, however, to a poem like *Anseïs de Carthage*, a work written by an author devoid of artistic gifts, the pillaging of the common stock of formulae becomes really offensive. The author of *Anseïs* is composing without inspiration an artificial story from episodes adapted from a host of others and he uses at the traditional places all the well-known epic devices for decorating or delaying a story. A knight is in distress; he calls on God to help him: *Dieu ki . . .* and he has to fill the line; another knight wishes to swear his fidelity: *Par Dieu qui . . .* and the same difficulty arises. For the name of God alone is not long enough and is not in the epic tradition; and yet the hero has to pray and swear, for they are in the tradition. Only a great poet could avoid the abuse of tags used simply to fill in the line.¹¹ And the great poets are extremely rare among authors of songs of geste for the same reason; spontaneous and sincere expressions of piety are rare in their poems. The song of geste was a genre which conformed to clearly defined traditions; it was too easy to build and decorate a new one from fragments of older ones.

Out of the quite considerable number of locutions which could be used to describe one or other of the attributes of God, the poet could apparently make his choice. The principal, if not the only, guide was the assonance. For a *laisse* in -e,

¹¹It is quite wrong, at any rate as far as the form of the poems is concerned, to accept the commonly held opinion: "*plus un poème est ancien, plus Dieu y tient de place*" or "*plus ces poèmes sont religieux, plus ils sont anciens. C'est un élément de critique.*" (Gautier, Léon: *op. cit.*, p. 121 and p. 149).

he could use: *Dieu . . . ki formas Daniel*; in -o: . . . *ki formas Lazaron*. Standardized locutions containing various numbers of syllables were available to meet the variations in the space at the end of the line. The locutions themselves had such little meaning that we often find copyists absent-mindedly replacing the one in the text copied by another ending in the same rime: *le ber saint Denis* becomes *le roi de maisté* in another MS. (Og, 7651); *Deus est prodom, qui nos gouverne et paist* becomes *Mais Damedeus qui est souverains et vrais* (CL, 36); *Mais par chel dieu ki fist chiel et rousee* becomes *Mas par celi ki fist mer galilee* (AC, 1288). The explanation is not that the poets are trying to reproduce the spirit of religious idealism which we know to have been the characteristic of their medieval hearers, but that the technical vocabulary of the *trouvères* was comparatively limited and that they liked to give their poems an air of easy piety which cost them no great effort. The frequency with which they use the name of God, and the epithets they append are not the reflection of the intense religious faith of the people of the eleventh-thirteenth centuries but a characteristic of the epic genre as they understood it.

The comparatively large number of the epithets used must of course be considered in relation to the great length of the poems. It is always dangerous to isolate phenomena, references to usages of any kind, from the context in the songs. For one is very apt to get an exaggerated idea of their relative importance and frequency. A linguistic phenomenon occurring even twenty times may still be due to pure chance. But even though the songs published run into hundreds of thousands of lines, a phenomenon which occurs literally hundreds of times must begin to take on some particular significance. And that is the case with, at any rate, most of those I have collected. Only one reference is, however, given here:

The most frequent are: *Dieu . . . qui fist ciel et rosee; qui tot a à jugier; le droiturier; ki pardon fist Longis; l'esperital; qui ne faut ni ne ment; de majesté; le roiamant; qui de l'eve fist vin; le vrai creator.*

God, Christ, the Saviour: these terms are interchangeable.

For the *trouvères* God and Christ are one and the same person and the epithets are used indiscriminately for either: Damedieu a juré qu'en apele Jhesu, DM, 4388; Damedieu a juré qui ot à non Jhesus, DM, 4068; Deu li roi Jhesu, Y, 437; Deu le fils sainte Marie, GV, p. 27; le roi qui fu nez de Marie, Sa, II, 47; la Vierge dont Damedie fu nez, AA, 222; Deu . . . qui de vierge fu nés, DM, 5057; qui fu nez sans pechiez, SB, 4227; ke fel Judas vendi, RM, 342, 23.

The glory and perfection of God: Dieu . . . le roi de Paradis, GV, 71, 30; vrais glorieus du ciel, Og, 5867; por Deu le grant, AN, 3175; por Deu le roiamant, RM, 22, 21; le tut poant, W, 250; sainte vraie Paterne, Og, 11934; le grant Paterne, W, 1083; li peres de lasus, Sa, II, 57; foi que doi à roi de majesté, GV, 14, 4; li pere espiritable, A, 71; biau pere espirital, Sa, II, 152; que l'en doit aorer, GN, 1254; qui pere est de pitié, DM, 3057; qui onques ne menti, AA, 2953; qui ne faut ni ne ment, GV, 84, 30; qui tos dis fus et iers, RC, 2784; qui fu et ert et iert, Og, 4102; qui maint en trinité, CV, 1033; qui est souverains rois GV, 5, 10; qui toz les biens avance, AN, 1826.

God the creator: Dieu . . . qui fist ciel et rosée, DM, 2035; qui nos done ciel et clarté, CV, 1034; qui nos done et lumiere et clarté, PO, 150; qui nos done clarté, RM, 344, 2; qui creas eau et vent, DM, 3616; par cui il gresle et vante, Sa, I, 240; ki feïs mer et vent, RM, 342, 37; qui fist corre la nue, Y, 2036; qui fist la nue, GV, 56, 16; qui fist vin et blé, PO, 149; qui fet flourir le glai, DM, 7576; qui fist le firmament, B, 115, 9; qui forma tot le monde, Og, 2780; qui tot forma, AN, 3835; ki nos fist de noient, RM, 343, 11; qui le mont crea, AN, 3858; qui le mont estora, AN, 3853; ki tos nos fist, RM, 214, 8; qui nos fist à s'ymage, Og, 4991; ki fist mer et port, RM, 339, 19; qui forma Daniel, RC, 2772; qui forma Lazaron, A, 7205; qui forma Loth, CL, 951; le verai criator, AN, 2433.

God the powerful and merciful judge and saviour: Dieu . . . qui sus tous a puissanche, DM, 1; qui tot a en bailli, AN, 2712; ki tot a à jugier, Og, 10507; le pere droiturier, Og, 3263; le verai jostissier, AN, 2889; qui establît les lois, GV, 5, 5; qui fist les lois, AN, 2371; ki tot le seigle guie, Sa, II, 85; qui haut siet et loing voit, RM, 164, 9; ki par tot le monde veille, RM, 339, 13; le verai sauveor, AN, 2916; qui tout a à ssauver, Fi, 191; qui le mont dois salver, Og, 435; par le saint sauveor qui nous doit conseilier, DM, 8654.

*Allusions to biblical history*¹²: Dieu . . . ki fu livrez à mort, RM, 339, 22; qui en crois fut drechiés, DM, 3074; ki s'offri à la haschie, RM, 344, 22; qi en crois fu penés, Og, 4919; qui an la croiz fu mis, AN, 2601; qui souffri passion, RC, 2094; ke fel Judas vendi, RM, 342, 23; qui d'Adan fist Evain, B, 100, 7; qui confondi Tafur, RM, 394, 29; qui de l'eve fist vin, SB, 485; ki pardon fist Longis, RC, 3870; ki sauva Abraham, RM, 345, 23.

Varia: Dieu . . . qui maint el firmament, B, 129, 7; qui maint en trinité, CV, 10, 33; qui maint lasus, Sa, I, 85; qui maint el ciel lasus, CN, 270; par cel Seignor qu'on requiert outre mer, GV, 115, 21; par cel seignor que querent peneant, Og, 767; par le Saint Sauveor qu'en quiert en Bethléem, DM, 8619.

Here is another indication of the lack of significance with which the *trouvères* themselves regarded these lines. Often the same epithets as are used to describe the Christian God are appended also to the name of Mahomet by the Sarrazins: *Mahomes, ou tous li mons apent*, AC, 3994; *Mais par Mahom, ki tout a à jugier*, AC, 1355, 3941; *Mais par Mahom, ki me fist à s'image*, AC, 1258; *Mahomet croi, ki fait corre la nue—Ki la rousee fait naistre et l'erbe drue*, AC, 2107; *Cil Mahumet ki nus ad en baillie*, R, 2711; *Par Mahomet, ou la meie aneme apent*, CL, 873C. The same variant readings can also be found for these *chevilles* as for the Christian ones.

The constant use of such formulae as these and their dependence on the rime of the *laisse* are in direct contradiction to the opinions of those who would see in the songs the exact reflection of popular religious ideals: *Nos chansons de geste sont profondément populaires et reflètent exactement les croyances du peuple à leur époque*.¹³ A curious instance of their inadequacy in this respect is the comparative neglect of the Virgin Mary. We know from historical sources that the cult of the Virgin was widespread, that it had a profound effect on the customs and the religious beliefs of the great mass of the people. She made frequent and effective intercessions on

¹²For the *trouvères'* knowledge of biblical texts, see F. Busigny, *Das Verhältnis der Chansons de Geste zur Bibel*, Diss., Basel, 1917.

¹³Léon Gautier, *op. cit.*, p. 167.

behalf of those who asked her help; her importance became even greater than that of God or Jesus Christ, and her cult served as an inspiration for much of the purely courteous aspects of chivalry. But, in the songs, she never at any time intervenes directly in the action, she performs no miracles, she is addressed only incidentally, her relics are much less abundant than those of even minor saints. Hardly one of the host of shrines dedicated to her is mentioned and certainly no important episodes are grouped around them. This effacement of the Mother of Christ in favour of her Son, who is always identified with God, is in complete contradiction to the popular belief and practice of a Mariolatrous people. For the *trouvères* she is a secondary person and like the others is addressed in standardized formulae. She is generally, but rather coldly: *la Vierge honorée*, B, 94, 12; sometimes *la vierge absolue*, Y, 2031, *la mere virgine*, *pucele*, W, 798, *la vierge dont Damedie fu nez*, AA, 222, *la vierge de Bethleem*, Og, 10940, *la virge droituriere*, B, 175, 17. Almost the only allusion that is made to her divinity takes the form of a conventional, passing reference to her as the Mother of God: e.g. *Se diex n'en pense, li fiex sainte Marie*, AC, 2517. It is only rarely that she is addressed directly and then poetic tags referring to her maternity are added with the idea of rounding out the line and conforming with the rime: *Cele qui de vous fit la sainte portée*, B, 171, 13; *par icele dame ou il fut escousez*, RM, 344, 3. Such neglect of one of the most powerful of all medieval religious cults can only be explained by the fact that it did not happen to form part of the traditional epic conventions. If the *trouvères* had kept in mind the role which has been ascribed to them of being the exact interpreters of medieval society, they could hardly have given such an insignificant role to one of the most popular subjects of veneration.

* * *

The same lack of conformity between the so-called faithful representation and the historical reality is noticeable in the case of the roles played in the songs by the saints and their shrines.

Medieval chronicles abound in proofs of the fervent and constant veneration in which the people held the multitude of saints figuring in the church calendar. Everything beyond the scope of their ordinary observation was put down to the supernatural but common enough intervention of some saint or magical force. The medieval world was extremely limited in its horizons but always in close touch with the celestial world. Every community had its local saints, whom it worked very hard indeed and who were at the instant command of the faithful believer. He had only to pray to them, humbly and sincerely, preferably in front of the casket containing their undoubted relics, for his reasonable requests to be granted. The songs of geste, however, present a very different picture of the role that they played in matters of everyday life.

At first sight, nothing seems to prove more clearly the profound penetration of the Christian and religious spirit into all phases of medieval life than the really immoderate use made of the names of saints. There is not a single song in which they do not occur regularly and frequently. They are used as witnesses, great and solemn oaths are sworn over their relics, they are invoked as guarantors of the sincerity of the intentions under discussion. But they are rarely called upon directly. Very few prayers are offered to them, and only on a half-dozen occasions do they interfere actively in the course of the action.

After compiling a list of these saints and grouping together the various purposes they are made to serve, we are surprised to find many things which do not appear at first glance. In 25 songs, only 60 saints are used; in the 76 analysed by Langlois, there are only 128.¹⁴ And yet the allusions made to this small number amount to thousands. I have tried to tabulate, first in alphabetical order, and then in order of preference, the saints to whom invocations are addressed in 25 songs; in brackets I have placed the number of times they occur in Langlois' *Table des Noms propres*. Every reference is not included, only those in which the saint is appealed to for

¹⁴Langlois: *Table des noms propres contenus dans les chansons de geste imprimées*.

assistance or to act as a witness; in Langlois' *Table* it is often impossible to distinguish between simple mentions and invocations. In my 25 songs the figures given for Denis, Peter, Richier, Simon and Vincent are not complete; these names occurred so frequently that, unfortunately, after a time I ceased to collect them.

Amant, 14 (28); André de Pautras, 3 (8); Archedeclin, 3 (22); Bernart, 2 (3); Clement, 5+ (18); Daniel, 3 (47); Denis, 39+ (246); Elie, 4 (14); Etienne, 5 (9); Foi, 2 (4); Fremin, 5 (16); Géri, 9 in one song (2+); Germain, 2 (11); Gervais, 7 (14); Jacques, 13 (32); Julien, 2 (11); Katherine, 2 (10); Lazare, 8 (79); Légier, 5 (32); Léonard, 3 (13); Marcel, 4 (38); Martin, 6 (69); Maurice, 6 (22); Nicholas, 3 (26); Nicol de Vauquois, 2; Omer, 9 (47); Pierre, 10+ (179); . . . en Noiron pré, 11+; . . . à Rome requiert, 7+; Pol, 6 (38); Pol de Ravane, 7 (8); Rémi, 11 (43); Richier, 37+ (70+); Simon, 36+ (115+); Sire, 7 in one song (7); Siméon, 7 (39); Thomas, 5 (25); Vincent, 12+ (56); Ylaire, 8+ (16).

Mentioned once only in my songs: Agace (1); Augustin, (2); Barbe (1); Domont (1); Ennoré (10); Fagon (1); Gabriaus (13); Gertrude de Nivele (1); Guillemer (1); Gille (13); Lambert (2); Malo (13); Mar (1); Martial (3); Michel (34); Pol de Valçois (1); Pol d'Apollince (3); Sophie (4); Ypolite (1); Yvautre (1).

Other saints mentioned in Langlois: Abran, 1; Agace, 1; Agasse, 1; Amour, 1; André, 8; Anès, 1; Anne, 2; Anthone, 1; Aubin, 3; Augustin, 2; Bartélémi, 1; Basile, 5; Bastien, 1; Beneoit, 2; Blancart de Paris, 1; Brignon, 1; Cire, 7; Claire, 1; Clairon, 1; Crois, 3; Désier, 1; Domin, 9; Donasse, 1; Eline, 1; Eufronie, 1; Eusèbe, 1; Faron, 1; Felis, 7; Feron, 1; Florent, 2; Florent de Roie, 2; François, 2; Fremin d'Aminois, 1; Geroisme, 1; Grégoire, 1; Guéline, 1; Guillaume, 1; Guineman, 1; Guinemer, 1; Honoré, 10; Hubert, 1; Hutasse, 1; Ysaye, 1; Jean, 68; Jonas, 23; Jorge, 54; Joseph, 4; Landri, 2; Loïs, 3; Longis, 83; Lorant, 6; Loth, 2; Lou, 3; Lucas, 1; Machut, 1; Mahieu, 3; Martel, 2; Maximin, 1; Mercure, 1; Moris, 22; Niçaise de Rains, 1; Ostril, 1; Pancraïse, 1; Paterne, 4; Pechine, 1; Pol d'Avallon, 4; Policerf, 1; Poncien, 1; Pri, 2; Prin, 2; Quentin, 1; Raphael, 1; Silvestre, 3; Servais, 1; Servan, 4; Siméon, 39; Siméon, 1; Thiebaut, 2; Vaas, 1.

Other, and less precise, allusions found in my 25 songs:
 apôtre que quierent peneant, 13; apôtre qu'en requiert en
 l'arche, 4; apôtre por qui Deus fait vertu, 2; apôtre que
 l'an doit deproier, 1; apôtre que l'an requiert et prie, 2; par
 les sains de:—Bretagne, 4; Orient, 2; monastère, 2; sosisel, 3;
 Dieu, 2; Bavière, 1; orlénois, 1; Otrante, 1; Pavie, 1;
 Ponti, 1; Poictiers, 1; Tudelle, 1; outremer, 1; par les
 sains que l'en prie, 3.

Order of frequency in my list and in *Langlois*.

25 SONGS	76 SONGS	
1. Denis	1. Denis	cited in 61 songs.
2. Richier	2. Pierre	" 52 "
3. Simon	3. Simon	" 37 "
4. Pierre	4. Longis	" 38 "
5. Amant	5. Lazare	" 33 "
6. Jacques	6. Richier	" 31 "
7. Vincent	7. Martin	" 28 "
8. Géri	8. Vincent	" 24 "
Omer	9. Jorge	" 17 "
9. Ylaire	10. Omer	" 28 "
Lazare	12. Siméon	" 26 "
10. Siméon	15. Jacques	" 21 "
Pol de Ravane	16. Amant	" 16 "
Gervais	22. Gervais	" 8 "
	23. Ylaire	" 13 "

Despite its inadequacy this list shows how comparatively restricted was the choice made of saints whose names could be used in the songs of geste. Out of the thousands whose shrines were objects of daily veneration, only a few are used and these are not always the most important. In my lists comparatively minor saints occur more frequently than the greater ones. We are, in effect, again in the presence of a convention.

As in the case of the locutions appended to the name of God, the references occur in the second hemistich with the name occurring at the end of the line, or are accompanied by tags to complete the requirements of the metre. In either case, the choice of the saint and the choice of the tag depend entirely on the rime. Different copyists have made this clear by the variations they have permitted themselves to make in the

name of the saint. A second scribe will arbitrarily change the name; he is no doubt so familiar with the group of saints which can be used for any particular rime that he makes this change without thinking. For example: a second *remanieur* changes *Vincent* to *Amant*, Og, 10830; *le ber saint denis* becomes *le roi de maisté*, Og, 7651; *pour le cors saint Felis* becomes B: *pour le cors saint Hermis*, and D: *pour le cors saint Denis*, AC, 250; similarly *saint Vicaire* become *saint Ylaire*, AC, 1794, and *par saint Nicolai* becomes *sanx nul delai*, AC, 1844; *Saint Loth* becomes in B: *saint Pol*, and in C: *saint Job*, CL, 956; *Rois Anseis jura saint Daniel* becomes in B: . . . *saint Gabriel*, and in C: . . . *la vertu Samuel*, AC, 4746. It seems that it did not matter which saint was used as long as his name suited the rime.

Furthermore, despite the number of regional saints whose relics were objects of constant veneration in shrines situated all over Western Europe, there seems in the songs to be no connection between the geographical territory in which the events narrated take place and the character of the saints whose aid is invoked; the same ones are used indiscriminately in all songs. There was, as M. Bédier has pointed out, a definite relationship between many of these songs and certain popular shrines, but hardly any of the appropriate local saints are used in the songs. The only interest that the *trouvères* seem to have taken in a local saint is confined to narrating his adventures before he became a saint.

Nor has the particular saint chosen anything to do, as a rule, with the favour asked of him. In the Middle Ages the special capabilities of saints were already well known and we should expect a faithful observer and illustrator of medieval religious beliefs to have borne in mind, when calling in the aid of a saint, the qualities which usage and faith commonly attributed to him. Only once have I noticed a reference made to a saint which is in keeping with the functions commonly attributed to him: *Saint Juliens* . . . *Veuillez moi herbergier; De Diex et sains Juliens m'en voit à tel ostel* (B, 58, 10; B, 42, 9).

For all the others the *trouvères* had recourse to the common fund which tradition and convention seem to have brought together. The limited number of saints in this fund were, generally speaking, not localized, nor were they reserved for special duties. In our songs we do not even find that a poet has a special preference which would indicate his own personal beliefs, let alone those of the general populace.

This same conventionality is preserved in the choice of epithets and *clichés* which are always used when the saint's name does not occur at the end of the line. These formulae are far too stylized to be accepted as the spontaneous expression of a living faith, to be even considered as sincerely meant. They have hardly any more significance than a *Mon Dieu!* pronounced in a modern drawing-room. They supply the decoration inseparable from the medieval conception of an epic, in which there is no room, in general, for the expression of personal feelings, a decoration composed almost entirely of *clichés* accepted and probably demanded by the ignorant listeners.

The title most commonly used for a saint is a chivalrous one: *le ber saint* . . . For an oath, there are only two forms: *foi que doi saint* . . . , *foi que doi au cors saint* . . . , *par icele foi que je doi au cor saint* . . . ; and *si m'aïst saint* . . . Then a stylized phrase is added. A few only of these phrases are reserved for special saints, the majority being applicable to all of them: *Par saint Denis—à cui l'en doit proier; à cui je voel proier; à cui vuel obéir; cui je sui chevalier; à cui je rant chevage; qui est mes avoez*. For the two great pilgrim saints, James and Peter, there is a small number of variants, each related to the same idea: . . . *c'on quiert en Compostelle; que quierent peneant; que quierent chevalier; qu'on quiert en Noiron pré, pré Noiron; qu'est à Rome requis; c'on à Rome requiert; qu'à Rome est beneiz; qui de Dieu a les clés*. When the extent of an invasion or an expedition has to be indicated, the usual expression is: *jusqu'au perron saint Jacque*. In the case of Saint Paul, there is a general desire for precision; the particular one chosen, however, never has any geographical or other

connection with the events described: *Saint Pol de—Avallon, Valçois, Apolince, Ravane, Tudelle*. Lastly, there are invocations addressed to groups of saints, and to saints whose denominations are entirely vague. These are referred to in stereotyped and meaningless formulae.

This examination seems to show that the connection between the reality of the medieval religious ideal and the so-called reflection of it in the songs is extremely slight. The belief in the saints and in their miraculous interventions was a real one; but in the songs it takes on a literary and artificial form. As a representation of reality they are inadequate. The saints do not here fill the role of powerful intercessors, making personal appearances, ready to intervene actively and to perform miracles at the request of an earnest follower, as they were believed to do in real life. In fact, they hardly ever intervene and their active help is hardly ever invoked. The miracles that are performed are always performed by God. Saint James in a dream, Saint Michael in a cloud, Saint George in a battle, are about the only ones whose actions at any time correspond to the active role which society and popular credulity ascribed to them in real life.

In point of numbers they are but a pale reflection of the great masses of saints whom the real people of the Middle Ages venerated. Some of the greatest are omitted; few are cited with any degree of precision or special preference on the author's part. He chooses them indiscriminately, with no care for aptness or even suitability, guided only by the requirements of his metre. They thus became useful decorations, picturesque additions in keeping with the conventional Christian *décor* which tradition and custom made listeners expect to find in this very conventional form of literature. Their use indicates rather than the pious character of their inspiration, the rough talents of their authors, who, for the most part, were little more than uninspired rimesters building up fresh stories out of material quarried from older ones.

Custom rapidly prescribed the occasions on which they should be used. When the sense of the line is complete before

the requisite number of syllables has been reached; for oaths, which, for the most part, are pure literary flourishes; for the more solemn oaths sworn before battles and duels, and when the knight is in great danger. But curiously enough, custom also provided that it should be God and not the saint who should receive the rare votes of thanks which ought to be offered afterwards.

* * *

The great majority of the songs of geste are punctuated at fairly frequent intervals with prayers of an unusual and imposing character. Before all other duties, the hero seems to obey the duty of prayer. In every circumstance, but especially in the unfavourable ones, he addresses prayers to God, the Saviour and Creator, very occasionally to the Virgin Mary, and once or twice to a specially named saint. Everyone, from the king down to the humblest peasant, from the old man to the youngest child, offers to God his pleas for moral assistance or active intervention, or, but only rarely, his thanks for a benefit received.

The same question arises here as has arisen before. Are these prayers introduced as a result of direct observation of the habits of real life, do they reflect not only religious idealism but also another of the forms in which this piety expressed itself? Are they an additional proof of the close and constant contact maintained between their authors and the religious institutions and practices of which they are the natural reflection? Critics have for long compared the artless credulity expressed in the prayers of the Christian barons with the fervent but credulous piety of the popular religion in the Middle Ages and have seen in them a fresh illustration of the sociological importance of these poems.

It is always imprudent to generalize too freely and with too little material under observation. But after reading some thirty of these songs one after the other, a few striking impressions must be left in the reader's mind. By that time he has learned more or less what to expect at any given stage in a story. He knows, for instance, that when in the course of a

great duel the Christian knight is on the point of succumbing, he will, in three cases out of four, offer up an enormous prayer to God, after which he will at once recover his strength and win. He knows that the spectators will always be found, either on the jousting ground, or in a convenient church, also praying. Before the great hero dies, he will always utter a similar prayer; and so on. It seems to be one of the rules of the epic genre that at certain given points in the story there are well-defined religious episodes which should, if possible, be included. The reader has the vivid impression that these prayers have no significance for the piety or otherwise of the society for which the poems were composed, that there is absolutely no spontaneity and consequently no sincerity, in the sentiments they are made to express.

There is no doubt, however, that the popular mind, as it is reflected in the tastes governing the introduction of these religious themes in the songs, was convinced, or perhaps wished to be assured, of the efficacy of the act of prayer. And this faith is never belied by the results which always and immediately follow a pious plea. The Sarrasins time and again draw to the attention of their own gods the marvellous effects which never fail to occur in response to a prayer to the Christian God. A prayer is offered for guidance, and God at once sends a white stag to guide the army, Og, 261; in answer to a fervent prayer, God sends a storm to destroy an impious town, Aq, 2632. The Christian God, as well as, but more rarely, the Virgin Mary (DM, 1704; PC, 2888), is always ready to grant the requests of His soldier missionaries.

A true hero only has to pray for his prayer to be automatically answered, and nothing is put in his way to prevent him from carrying out this duty: *Ung preiere a dit de grant bonté;—N'a sor ciel ome qui de mere seit nez,—S'il la diseit par buene volenté,—Al matinet, quand il serait levez.—Ja puis deables nel porreit encombrer*, CL, 689. The very act itself has a peculiar virtue which is extraordinarily useful to the poet when he finds himself in difficulties with his story. On another occasion, Richart, who "*a paor de mort*", asks his captors for a

moment in which to pray. This respite is granted because in doing so the captors themselves will gain a reward in heaven: *Ahi, dist-il, Ripeus, gentils fuis à baron,—Dones moi i respit que nos vos demandons.—De dire une proiere que dire soliom.—Bien sai, se je la di, m'ame aura garison.—Par mon chief, dist Ripeus, ja respit n'en donron.—Sire, dient si home, s'il vos plaist, si ferom,—S'il puet s'ame salver, grant aumosne i aumom.—Respit li ont doné, je cuit, u il perdront*, RM. 276, 33. And the little Doolin has an equally pious faith in the efficacy of the prayers of his father, Gui de Mayence, a lonely hermit living in the forest (DM, 4040).

The chronicles of the period abound in illustrations which prove the undoubted accuracy of this simple presentation of faith in the immediate responsiveness of God to prayer. But the form in which these prayers are couched, as well as the mechanical purposes which they serve, is somewhat special. At any moment, heroes, heroines, children even, launch into enormous prayers, sometimes more than a hundred lines in length, in which they make little less than a formal profession of faith. Gaston Paris called them cyclical prayers; the word credo-prayer seems to me to be a more apt description of their content. Starting out from the creation of the world, or from some point in the life of Christ, passing through the Old Testament prophets and the miracles of Jesus, they offer in great detail all the beliefs of the person who is praying and then end with a phrase like: *Si com c'est voir, sire, et nous le creons*. . . . After thus reminding God of the miracles He has performed in the past and after affirming solemnly his belief in their authenticity and in the power of God, the suppliant then asks for a fresh proof of God's beneficent power.

It is a kind of profession of faith which can be indulged in at any time and in which the events alluded to need not necessarily have any connection with the petition that follows. Whenever he is in danger, alone, sad, gay, in the middle of the battle, before the battle, when on the point of dying, the hero prays. Even the child Doolin, who is only seven years old, prays just like the others, speaking learnedly of Judas,

Saint Croix, Longis and so on (DM, 376). Sometimes these long effusions become a little ridiculous, for the subjects they deal with not only have nothing in common with the situation that is being described in the story, but actually stand out in striking contrast with it. There is a short prayer of Gui de Nanteuil, in which, in order to draw attention to the beauty of a certain lady, he reminds God of the miracle of Jonah and the whale—a comparison which, to say the least, is a little unflattering to the lady! *Dex, dist Gui de Nanteuil, qui formas Lazaron,—Et garisis Jonas u ventre du poisson,—Il n'a tant bele (dame) dusqu'en Carphanaon!* GN, 454. The fact that even the *trouvères* recognized occasionally their ridiculous side can be seen from several remarks they make in passing. Guillaume, before going out to fight Corsolt, prays: he in turn reminds God of Adam, Eve, the forbidden fruit, the exodus from the garden, Cain, the flood, Noah, the Virgin, Bethlehem, Saint Anastasia, the Three Kings, Herod, the preaching and fasting of Christ, Easter at Jerusalem, Simon the Leper, Mary Magdalene, Judas, Calvary, Longis, Nicodemus and Joshua, the Resurrection, etc. (CL, 696-789). Thereupon the pagan Corsolt, terrified at the length of this prayer, says mockingly to his adversary: *Di moi, François, garde ne soit celé—A cui as-tu si longuement parlé?* (CL, 792) The procedure was, however, so firmly fixed in the epic tradition that when a pagan, Mirabel, wishes to pray, the poet composes for her a long prayer built on the model of the conventional Christian ones (A, 6214-6271).

The length of these cyclical or credo-prayers is often awe-inspiring. Generally the suppliant collects together the most curious mixture of incidents gathered haphazard from the Bible or the legends of the saints. The prisoner Aymeri, who is about to be burnt alive by Corsobles, speaks of the Virgin, Paul, Jonah, Daniel, Simon, Mary Magdalene, Moses, the Jordan, John, the Passion, etc., MA, 1443-1478. Ogier relates the story of the massacre of the Innocents by Herod, the baptism of Christ, the Cross, Sepulchre, Jonah, Susanna, Daniel, Lazarus, Og, 11603-11675; see also: B, pp. 41, 44, 45, 46, 47,

48, etc.; RM, 247, 26; RM, 430, 33; PO, 804, 499; Sa, II, 31; Fi, 1164-1233; W, 801, 814, 898; Aq, 1921-1980; CL, 691-786; A, 2969-3023, etc. It would almost seem that, keeping all the while within the rules of his art, the *trouvère* is anxious to display before his wondering audience the extent of his knowledge of biblical history, theology and doctrine.

There are only a very few examples of prayers of this kind being addressed to a saint. Then, after the usual biblical references, we have a recital of the miraculous life of the saint or a list of his most impressive miracles. Charles, for instance, recites a conventional prayer to God (Aq, 1921-1980), and then calls on Saint Servan whose life and miracles he relates next (Aq, 1985-2028). Airol calls on Saint Nicholas in just the same way (A, 3073). At other times, but less frequently, stories taken from the Bible are confused with some popular legend, and the ignorant poet completes the confusion by attributing this legend to the biblical personage he has been describing. As, for instance, the famous legend of the roasted cockerel which returns to life, which the author of the *Chevalerie Ogier* believed to have taken place at the time of the massacre of the Innocents and in the presence of Herod.

We are not, of course, surprised to find that these biblical characters and places are endowed with all the outward traits of chivalry. The characters of the Bible are described as though they were knights and ladies of the twelfth century. They are called barons and seigneurs; they live in castles; their Jewish priests are transformed into medieval clerics. But we are surprised at the incongruity between the illustrations chosen and the circumstances which occasion their recital. Except in the Song of Roland and perhaps in Doon de Mayence, they interrupt the course of the narrative and have none of the apt spontaneity and freshness which we should generally expect to find in a prayer. The people, no doubt, enjoyed their imposing complexities and did not look for that sincerity for lack of which we find them tedious. The solitary credo-prayer in the Roland (R, 3100) is a little more spontaneous than the others. But the intercalation of long and erudite effusions very

rapidly became systematic; they form an integral part of the medieval conception of epic poetry.

The occasions on which these prayers are used, as I have already said, are also defined by tradition. On rising (DM, 1672) and on going to bed (DM, 1462); before entering the battle (PC, 2767, 2888). Especially before an important duel; then the priests in full vestments and accompanied by relics, crosses and bell-rings, pray—for example, for Aymeri, who is going out to fight an *Amiral* (MA, 1090). Always during the duel: Aude retires to a nearby chapel and prays before the altar for the safety of her father (GV, 137, 18; GV, 148, 15); Charles, fearful for the life of Oliver, goes to a chapel to pray (Fi, 766); Charles prays during the duel between Ogier and Brunamont (Og, 2892, 2946); while Aiol is fighting, Luciane prays (A, 3117). Always, when a hero is gravely wounded, he or his comrades pray that God will receive his soul (Sa, II, 145; cclvii). On these occasions, as well as at all times when danger threatens, it is customary to introduce a standardized form of prayer.

There are two other ways in which the institution of prayer can be turned to literary effect. It can be used especially to create a sense of dramatic suspense by a calculated introduction into an early part of the story of a short prayer offered by the author himself, asking God to protect his heroes from some threatening danger of which they are as yet unaware: *Or gart Dex Baudoin et la Virge Marie—Qu'il atant aventure! or panst Dex de sa vie!* (Sa, II, 7; cf. DM, 1485, 1900); *Dex les confonde, li rois de maïsté—Et il conduise Franchois à sauveté* (AC, 4475); *Or le gart diex, ki en Jhersalant—Soufri pour nous le mort en crois pendant* (AC, 2260). At other times a prayer is allowed to carry the story. When the hero is running some great risk, or when he has overcome some great danger, the poet puts on his lips a prayer which, without actually relating the events of the story, reveals in a very dramatic way the tortured state of his mind, all his hopes and fears. It may even sum up all that has preceded or forecast what the uncertain future may hold in store. Then each

change in the ideas of the character will be marked by a fresh set of prayers and invocations. This is a very artificial but a very useful literary device, one which not only serves to keep hold of the listener's attention, but also introduces a little variety into the vast monotony of stories each of which is so closely similar to and even modelled on the others. Examples of these prayers are particularly frequent in *Berthe aus grand piés* and in *Anséis de Carthage*. They are not used as a rule by the few real poets whose work has come down to us, but by the vast mass of rimesters who find them very useful in the more sombre portions of the story. They are only rarely used in moments of rejoicing; e.g., Og, 367.

The manner of praying is just as regulated as the prayers themselves. The face must be turned to the East (PC, 2767); the hands are held outstretched (Og, 2946). If the prayer is offered in a church, it must be before the altar and the feet of the figure on the crucifix must be kissed (Fi, 766). But these are customs which, though characteristic and stereotyped in the songs, are almost directly derived from observation of the actual practices of the age.

The reader of the Song of Roland will leave this poem thrilled with the picturesque evocation of a rude society in which every action is made beautiful by an intense faith in a religion which has penetrated every corner of its civilization. He will read, expressed in stanzas exquisitely swift and simple, the story of a battle of Christian martyrs; he will read the moving, but short credo-prayer of the emperor at the death of his beloved nephew (R, 3100), the simple prayer which this nephew pronounces over the dead bodies of his comrades (R, 1851), the benedictions of the archbishop Turpin (R, 1127, 2193). It is all so simple and so sincerely expressed. For the author of the Song of Roland was a great poet. But even in his work we can see the evidences of the already constituted epic, traditional, conventions. This single example of a credo-prayer occupies only 10 lines and fulfils a real purpose in the construction of the episode which contains it. How different is the impression we receive from reading the other poems—

there are only a few exceptions, like the *Chevalerie Vivien*. The mechanical perfection of the versifier is substituted for the poet's genius; simplicity has given way to complexity, rapidity of narrative to a wilful *délayage*. Prayer loses its significance to become one of the phenomena which the skilled author had to include in his poem because it is impressive and useful in the development of the story. It is an artificial and arbitrary form, not built on the observation of a fundamental and well-authenticated practice in the society the poet is supposed to be illustrating, despite the resemblances which may, in principle, exist. His society is as standardized as the world of crooks and thieves, of highly intelligent private detectives and highly inefficient police officers of the detective story, and just as unreal. The medieval people placed an extraordinary faith in the power of prayer; the crusaders regularly prayed before going into battle. But the forms of these prayers, the regularity of their appearance, their erudition and internal construction are, to the epic poet, matters of convention which he finds it useful to obey. And, as with most conventions, they become exaggerated to the point where they are not only meaningless, but ridiculous and tedious. Length and complexity are substituted for aptness and simplicity; the pure and beautiful faith of the Christian in the efficacy of prayer is replaced by the automatic response of the literary variety.

This aspect also of the Christian apparatus of the songs of geste is for the most part a pure literary device, useless in the interpretation of the pious sentiments of the people of the middle ages. God, saints, prayers, people, topography, the established Church and its servants, war, battles, enemies and the faith of enemies, almost everything is standardized and stereotyped and has long ago lost all touch with reality.

* * *

There is another very remarkable proof of the conventionality of the poetic conception of religion in these centuries. Not only do the practices of the Christian religion become conventions in the hands of the professional poets, but they use

them in order to reconstruct an entirely artificial religion for the Sarrazins also. This completely erroneous idea of Mohammedanism is built up on two opposing foundations. Everything that the Christian religion proscribes is attributed to the "*loi païenne*"; yet everyone of the practices is described by the use of the same formulae as are used by the Christians. They are shown to be a race of blaspheming idolators; but their addresses and prayers to their curiously named images are closely modelled on the Christian invocations and prayers: . . . *par le Sauveor qu'on apele Mahon* (DM, 9493); *Par Mahomet, ou la meïe aneme apent* (CL, 873C); . . . *Mahomet croi, ki fait corre la nue,—Ki la rousee fait naistre et l'erbe drue* (AC, 2107). They use exactly the same form of salutation as the Christians, with only the names changed: *Cil Mahumet ki nus ad en baillie,—E Tervagan, e Apollin, nostre sire,—Salvent le rei e guardent la reine* (R. 2711). Christian terms are used to mark corresponding, but in reality non-existent, pagan ceremonies: *Des Sarrazins est remés li servises;—Devent les vespres, an après les couplies,—L'au-maçon ist de la Mahomerie—Et li barnages de la gent Sarrazine* (PC, 997). They observe the same feasts, especially that of Saint John, and often a credo-prayer is put into the lips of a pagan: Mirabel, who has not yet been baptized, utters a long prayer of this kind (A, 6214-6271).

Exactness of representation has no place at all in the vast majority of the religious episodes with which these poems are so richly studded. Christian and Moslem are obedient to a set of religious practices the details of which, while some of them may have a general counterpart in reality, do not in the least reflect the actual practices of real life. The regularity and the manner of their appearance in the songs make it unnecessary to look for actual counterparts. Still less do they present a reasonably accurate reflection of the religious idealism of the age. It was pious, it was credulous, it explained everything that was unusual or extraordinary by miracles or magic, it was in constant and close touch with God and the saints living in a heaven above their own world. But the piety and credulity

and the belief in the supernatural which appear in the songs of geste are literary conventions, devoid of real significance. They are explainable only by the fact that they were the conventions of an imitative process which, in the hands of poets possessing no sensibility, replaced almost completely the originality and inventiveness which only a great genius could have supplied.

JOHN TREVISA: A FOURTEENTH-CENTURY TRANSLATOR

AARON J. PERRY

JOHN TREVISA was a translator of Latin into Middle English, and had no small part in helping to establish our English Language in early days. He has a place beside the great trio—Chaucer, Wycliffe and Gower. English had to struggle for its existence after the Norman Conquest. For three hundred years it lived side by side with the French. It came through the conflict but with many changes, in grammar, pronunciation, spelling and vocabulary. It went into the struggle as an inflected, analytical language; it reappeared as a grammarless, a synthetic language. As Professor Henry Bradley says:

“What the Norman Conquest really did was to tear away the veil that literary conservation had thrown over the changes of the spoken tongue. The ambition of Englishmen to acquire the language of the ruling class, and the influx of foreign monks into the religious houses that were the sources of literary instructors, soon brought about the cessation of all systematic training in the use of English. The upper and middle classes became bi-lingual; and, though English might still be the language which they preferred to speak, they learned at school to read and write nothing but French, or French and Latin. When those who had been educated under the new conditions tried to write English, the literary conventions of the past generations had no hold upon them; they could write no otherwise than as they spoke. This is the true explanation of the apparently rapid changes in the grammar of English about the middle of the twelfth century.”¹

This use of the new French language by large groups of the people must have been a most effective force “to accelerate the movement towards disuse of inflectional endings”. The fusion

¹Bradley, Henry: *Changes in the Language in the Days of Chaucer*, Cambridge History of English Literature, Vol. I, Chap. XIX, p. 390.

of French and English, from 1066 until English became the standard means of communication is one of the most interesting chapters in the development of our language. It must be remembered as Professor Emerson points out, that English remained as the spoken language of the people of England, although the Conqueror was a Norman, and his retainers, courtiers and prelates, and the Norman nobility used the French language². And yet there seems to be evidence that some effort was made from the very beginning of the Norman rule to assist English in its new and difficult position. Thus Freeman says: "Of all the dreams, that have affected the history of the times on which we are engaged, none has led to more error than the notion that William the Conqueror set to work with a fixed purpose to root out the use of the English tongue." Henry I was taught the English tongue in childhood. "There is distinct evidence that in the days of Henry II (1154-1187) men of high rank and Norman birth could fully speak or understand English, though of course, this does not exclude speaking French also".³ The first royal proclamation in English was by Henry III, 1258. It also appeared in French and Latin. Edward I (1274-1307) used English "familiarly". According to Froissart Edward III (1327-1377) spoke English and was addressed in it. This same Edward in 1362, opened Parliament in English—the earliest recorded instance of the use of English in Parliamentary proceedings.⁴ In the same year, on petition of the Commons, the King established by statute that pleadings in the courts should be in English, not in French.⁵ Also we find from Toulmin Smith's *English Guilds*, that Parliament in 1388 "required all gilds to submit a report on their foundation, statutes, property, etc. The returns are mostly in Latin, but forty-nine of them are in English, out-numbering those in French". Thus we see that in the thirteenth and fourteenth centuries English was regaining its position as an official language.

During the same period a new native literature arose in

²Emerson, O. T.: *History of the English Language*, p. 58.

³Freeman, E. A.: *Norman Conquest*.

⁴Rolls of Parliament, III, p. 288.

⁵Stubbs, W.: *Constitutional History of England*, Vol. 1, p. 442.

England. Latin and French books were, of course, still written. Professor Baugh in his recent book states the situation thus:

"The general adoption of English by all classes, which had taken place by the latter half of the fourteenth century, gave rise to a body of literature which represents the high point in English literary achievements in the Middle Ages. The period from 1350 to 1400 has been called the period of Great Individual Writers. The chief name is that of Geoffrey Chaucer (1340-1400), the greatest English poet before Shakespeare."⁶

During the same period, contemporary with Chaucer, we have the three noted writers: John Wycliffe (d. 1384), John Gower (1325?-1408), and John Trevisa (1330?-1402).

These contributed in different ways to the making of English a permanent language. Chaucer seized upon well-known French and Italian literary stories, translated and transformed them into popular and readable poetry in the East Midland dialect, which was the dialect of the court and commercial life of London, as well as of intellectual Oxford and Cambridge Universities. Gower, a great Latin scholar, wrote stories in Latin, French and English poetry. His English work is in Midland dialect. Wycliffe, a Yorkshireman, was educated at Oxford, became a Professor there, and translated the Bible into English in 1381, using the same East Midland dialect. Trevisa, a Cornishman, went up to Oxford, became a noted scholar, spent many years as Vicar for the Lords of Berkeley, and translated a number of important medieval Latin works into simple, readable English prose. His dialect was not exactly that of Chaucer. He was born in the south and lived most of his life in Gloucester. Thus he used a western Midland dialect with some southern features. "Any one of these men," says Baugh, "would have made the later fourteenth century an outstanding period in Middle English literature. Together they constitute a striking proof of the secure position the English Language has attained."

⁶Baugh, A. C. *History of the English Language*, p. 191.

As a Cornishman, Trevisa was very proud of his Cornwall teachers and their love of English. In one of his remarks in his translation of Higden's historical work, *The Polychronicon*, he shows that, after the Black Death, 1349, two Oxford school-masters, Cornishmen, were responsible for a great innovation in English education. In the grammar schools children were to be taught in English rather than in French. Here is his comment:

"This manere (teaching in French) was moche i-used tofore the first moreyn (plague 1349), and is since sumdel i-chaunged, for John Cornwaile, a maister of grammer, chaunged the lore (teaching) in gramer scole and construcioun of Frensche in to English; and Richard Pencriche lerned that manere techynge of hym, and othere men of Pencriche; so that now, the yere of oure Lorde, a thousande three hundred and four score and five, and of the Second King Richard after the Conquest nyne, in all the grammer scoles of Engeland, children leveth Frensche and construeth and lerneth in Englishe, and haveth thereby avauntage in oon side and disavauntage in another side; here (their) avauntage is, that they lerneth her (their) gramer in lasse tyme than children were i-woned to doo; disavauntage is that now children of gramer scole conneth (know) no more Frensche than con (knows) their left heele, and that is harme for hem (them), and they schulle passe the sea and travaille in straunge landes, and in many other places. Also gentilmen haveth now moche i-left for to teache here (their) children Frensche."

This information about our early English schools was called forth from Trevisa, after a statement by Higden which Trevisa translates thus:

"This aparynge (destroying) of the burthe tunge is bycause of tweie thinges; oon is for children in schole agenst the usage and manere of alle othere naciouns beeth compelled for to leve hire (their) owne language, and for to construe hir (their) lessouns and here (their) thynges in Frensche, and so they haveth since the Normans come fyrst into Engeland. Also gentilmen children beeth i-taught to speke Frensche from the tyme that they beeth i-rokked in here (their) cradel, and kunneth (know) speke and playe with a childe broche; and

uplondish (uneducated) men will liken hem self to gentilmen and fondeth (try) with greet besynesse for to speke Frensche for to be more i-tolde of" (talked about).⁷

Significant of the great interest in English at this time are the words of Sir John Mandeville, in the preface of his book of travels written in the middle of the century (1350): "I have put this book of Latyn into Frensche, and translated it agen out of Frensche into Englyssche, that every man of my nacioun may understonde it."⁸

Since French and Latin were foreign languages, while English was the natural speech of the people of England, there was a great necessity for translations into the vernacular of important works. Trevisa seems to have been the man of the hour. He had a wide knowledge of the noted Latin works of the period:—"the standard works of the time on scientific and human knowledge". He was interested in History, Science, Theology and the Militia. He spent most of his active life as Vicar of Berkeley under three of the Lords, from about 1360 until his death in 1402. These Lords of Berkeley were patrons of learning, and it was their inspiration and desire which encouraged Trevisa to give himself over to the translation of important Latin manuscripts into English prose. The two most important of these are Ranulf Higden's *The Polychronicon*, and Bartholomaeus Anglicus's *De Proprietatibus Rerum*. These great works are medieval in every respect. It has been asserted that "These translations became recognized authorities among the reading public of the fifteenth century and may reasonably be considered the corner-stones of English prose."⁹

The Polychronicon was a most popular medieval history compiled from many authorities, and deals with the history of

⁷The two passages just quoted from Trevisa's translation (1385) of Higden's *Polychronicon* printed in the Rolls series Vol. II, p. 159, have been changed in spelling and form but slightly to enable the modern reader to grasp the meaning readily.

⁸Quoted in Toller, T.N.: *Outline of History of the English Language*, p. 213.

⁹Greenwood, Alice D.: *Beginnings of English Prose*, Cambridge History of Eng. Lit., Vol. 2, Ch. 3.

the entire world from the creation to Higden's own day. It was written about 1350 by Ranulf Higden, a monk of St. Werburgh's, Chester. Babington, who edited Higden's *Polychronicon* and Trevisa's translation of it in the Rolls Series (1865), says: "The Latin Manuscripts are prodigiously numerous, and amount in all, I believe, to a number considerably greater than a hundred". This indicates its great popularity as a History. It was translated by Trevisa at the request of his patron, Lord Berkeley, and finished in 1387. This translation is preserved in no less than nine manuscripts, a further proof of its popularity among English scholars and readers. It was printed by Caxton in 1482, and again by his scholar, Wynkyn de Worde, in 1495; and yet again, because of the great demand, by Peter Treveris in 1527. The work is divided into seven books, suggested by the account of the cosmogony in Genesis. Book I is geographical rather than historical, being, as the author calls it, a map of the world. Book II is a history of the world from the creation to Nebucadnezzar. Book III carries on the history to the birth of Christ. Book IV brings us down to the arrival of the Saxons in England. The fifth goes on to the invasion by the Danes. The sixth book concludes with the Norman Conquest. Book VII brings the history up to Higden's time, the reign of Edward III. On this division Babington remarks: "The author pleasantly conceives that by thus dividing the vast current of history into seven streams, he laid open a path by which his readers may go over dryshod."¹⁰

Trevisa's second important translation, finished in 1398 for Lord Thomas, tenth Lord of Berkeley, was *De Proprietatibus Rerum*, known as the great Cyclopaedia of the Middle Ages, by Bartholomew Anglicus or Bartholomew de Glanville (1230-50). This was a recognized classic in the Universities, an encyclopaedia of all knowledge concerned with nature. Its author was a professor of Theology at the University of Paris. His work, arranged in nineteen books, with a religious and moral object, was most popular, as is seen from the following statement: "It was known in Italy in 1283, in England in

¹⁰Rolls Series, Vol. I, xiv.

1296, in Paris in 1297. It was first printed at Basle about 1470, and went through fourteen editions before 1500; it was translated into French in 1372, and into English by Trevisa in 1398."¹¹ R. Steele, who collected and edited certain sections under the title *Medieval Lore from Bartholomaeus Anglicus* (King's Classics Series), points out ninety-four sources of the book, and lists the various editions with dates as follows: Latin, twenty-one editions, from 1480 to 1609; Dutch, two editions, 1479 and 1485; French, twenty-one editions from 1485 to 1556; Spanish, two editions 1494 and 1529; English by John Trevisa, three editions. It was early printed by W. de Worde (no date) and in 1535 at London by Berthelet. In his prologue Trevisa gives the following apologia:

"Marvel not, ye witty and eloquent readers, that I, thin of wit and void of cunning, have translated this book from Latin into our vulgar language, as a thing profitable to me, and peradventure to many other, which understand not Latin, nor have not had the knowledge of the properties of things, which things be approved by the books of great and cunning clerks, and by the experience of most witty and noble Philosophers. All these properties of things be full necessary and of great value to them that will be desirous to understand the obscurities, or darkness of holy scriptures. which be given to us under figure, under parables and semblance, or likelihoods of things natural or artificial."¹²

Trevisa, being a vicar, was interested in Theology and the church as well as in History and Science. He has left us translations of three very different types of religious works, viz. *The Gospel of Nicodemus*, *Dialogus inter Militem et Clericum* and Archbishop Fitz-Ralph's Sermon, *Defensio Curatorum*.¹³

The Gospel of Nicodemus is one of the pseudo-gospels dealing with Christ, his passion, trial and resurrection, and the Harrowing of Hell. It was most popular, and appears in both prose and poetical forms in Old and Middle English. The

¹¹Perry, A. J.: Edition of Trevisa's work, E.E.T.S., p. lxxxvii.

¹²Ed. Steele, R.: *Medieval Lore*, pp. 9, 10.

¹³The first has not been edited, the other two were first printed from the MSS. by A. J. Perry, edition of Trevisa's works, published by the E.E.T.S., Oxford University Press, 1925.

late Professor W. H. Hulme edited the poetical Gospel from the MSS. in 1907 (E.E.T.S. edition). Trevisa's translation, in prose, must have been popular, as no less than nine manuscripts are in existence in various English libraries.

The Dialogue between the Soldier and the Clerk is a brief but highly impassioned conversation between two men representing views of church and state. Trevisa translated the dialogue from the pen of the Latin medievalist, Wm. of Occam. His translation was widely read, as it is preserved in six manuscripts. The argument deals with the ever old theme, the relative position of civil and religious authority, in which the Soldier has the most to say and rather wins in the end. He admonishes the priests to pray for those who die and not to waste their time in sins and vanity. Then again, "Priests should use their surplus on poor men and deeds of mercy". He argues that: "The spiritual temple of mankind is more worthy than the temple made by lime and stone". In answer, the Clerk claims that those who are occupied in the service of Christ are free in all points; the Soldier rejoins, "we grant that clerks in their own persons are free, but not those who live lewd lives." We have, in this, a glimpse of the medieval Knight of Chivalry set over against the Church of the time with its deception and corruption, of which we hear so much in Chaucer's poetry, in Langland's *Allegory*, and in Wycliffe's sermons.

The third religious work translated by Trevisa is a vigorous sermon preached by Richard Fitz-Ralph, Archbishop of Ireland, in 1357, against the friar system as it then existed in England. It is preserved in the same six manuscripts as the *Dialogue*. The Mendicant Order of Friars had been in England for about two hundred years. These brothers came to England as a humble and religious order, begging friars—with their vows of poverty and abhorrence of money. At first they took up their abode in old barns and hovels on the edge of a city. But in these two hundred years, this very religious order had greatly deteriorated; and so we have them, as pictured by the Archbishop in this sermon. Chaucer gives us much the same picture in his description of the Friar in the Prologue to the

Canterbury Tales (1387). Fitz-Ralph condemns the Friars on several counts. He claims that the parish priest is the proper person to shrive parishioners, and the proper place is the parish church, as commanded by God and the law. Also the parish church is chosen by God as the proper place for "using sacraments". Then again, "Friars are cursed because they take tithings that belong to the Church." They are also cursed because they absolve men, who have been condemned by the law of the country or the church. He gives, as an illustration, the case of two thousand who were condemned for various crimes, as manslaughter, common thieves, and incendiaries, and only forty were shriven by the parish priest, while the others were shriven by friars. The friar adds to his sin by shriving for money, as Chaucer says:

"Therefore, instead of wepyng and preyers,
Men moote yeve silver to the poure freres."¹⁴

Fitz-Ralph maintains that friars had, through the hearing of shrifts, built huge buildings. They had never given the alms they received "to repair parish churches, or highways or bridges". "Friars became privy in homes, because they hear shrifts, and so they beguile the children with small gifts, and thus induce them to enter the order and thus steal them." He also condemns them for getting control of the Universities, so that "parents refuse to send their children to the Universities because of the influence of the friars." They had so ruined the Colleges that the number of students at Oxford had been reduced from thirty thousand to six thousand. "And we troweth that the grettest occasion and cause why scolers beth so withdrawe, hit is for children beth so bigiled and y-stole: and y see noon greeter damage to al the clergie, than is this damage."¹⁵ They also control the chief libraries and buy up all the useful books. And thus, the actual condition of the friar order and its relation to church and the parish priest is vividly set forth in this able sermon. Trevisa's translation is indeed useful for students of the church in England in the fourteenth century.

¹⁴Prologue lines 231, 232.

¹⁵Ed. Perry, A. J.; p. 58.

Trevisa was also interested in the instructional or etiquette books of the time; and so he translated the huge *De Regimine Principum*, by Aegidius Romanus. This was a popular work in the Middle Ages, as many Latin manuscripts are scattered over Europe in the various libraries. Trevisa's translation is found in only one, Digby No. 233, at the Bodleian Library, Oxford.¹⁶ It covers one hundred and eighty-two large folios, beautifully written, and is followed (folios 183-227) by a translation of a work on the art of war, *De Re Militari*, by Vegetius. We have no evidence to date that this latter work is by Trevisa, although bound up with his *Rule of Princes*. In fact, present-day scholars are confident that it is a work by some other hand, although early authorities such as Pits. Bale and Tanner attribute it to Trevisa.

These then, are the important translations of Trevisa. His other translations are of minor value. Something should be said of the Bible attributed to him by early scholars. Many efforts have been made to find such a work, but so far to no avail; if he did translate the Bible, the MS. has been lost. Even as late as 1903, the famous English scholar Alfred W. Pollard supported the Trevisa translation idea. He concludes his argument with this significant statement:

"At any rate, William Caxton seems a better authority than an eighteenth-century divine as to the authorship of a translation made only a few years before he was born. We know that Trevisa was what we may call a professional translator, well equipped for his task; and we find him in his preface to the *Polychronicon* discussing the translation of the Bible in a strikingly similar spirit to that in which it is discussed in the Prologue to one of the translations which has come down to us. It is to be hoped that the subject may receive further investigation, and that without the importance of theological bias."¹⁷

As a translator Trevisa wished to be accurate; above all, to be understood. His principle was to translate every word.

¹⁶The writer is transcribing this MS. at the present time, and expects to edit it as an Early English Text Society publication.

¹⁷A full discussion of this is found in Perry's edition, pp. cxv-cxxiv.

He aimed at being understood by a wider class of readers than Chaucer did. He is given to wordiness. His style is simplicity itself. In his epistle to Lord Thomas of Berkeley on the translation of the *Polychronicon* he lays down this rule:

"For travell will I not spare comfort I have in medefull makeing and pleasinge to God, and in knowing that I wote that it is your will; for to make this translation clere and plaine, to be known and understandyn. In some place I shall set word for word and actiffe for actiffe and passife for passife arowe right as it standeth without changinge the order of words. But in some places I must change the order of wordes and set actiffe for passife and agen word. And in some places I must set a reason for a word, and tell what it meaneth. But for all such changing, the meaning shall stand and not be changed."¹⁸

Trevisa wished to be understood. The result is wordiness. This shows itself in two ways in his translations, first in the use of doublets or pairs of words, translating one Latin word by two or more words; and secondly, by an expansion of the Latin phrase, adding words and phrases not found in the original. Such examples are: L. potestas is translated "power and mageste"; L. fortunam is rendered, "the fortune and happe"; L. inobedientis is "unobedient and unbuxom". Then he has such expressions as: "to make translation trusty and true"; "also his lore was in mygt and power". In his translation he wished only to give the exact meaning of the original, and so his renderings are often very free. This gives his English a certain originality. In nearly all his work he interrupts the translation by explaining in his own words something not quite clear; many of these annotations or explanations are of some length. He signs his name usually after the note, occasionally before. In the *Polychronicon* there are over one hundred of these notes covering some six hundred lines. Some occur in *De Proprietatibus Rerum*; he has one noted explanation in *The Gospel of Nicodemus*, four in *De Regimine Principum* and one in the short *Dialogus inter Militem et Clericum*. On the whole I think we must

¹⁸*Ibid.*, p. xxxiv.

agree with one noted critic in his estimate of Trevisa as a translator:

"His translation is generally strict and literal but sometimes confused from a misapprehension of the author's meaning; indeed Trevisa appears to have been shrewd and well informed. It must be owned, however, that Trevisa has occasionally fallen into the most ludicrous errors, which a very little 'avisement' might have avoided. The reader who is inclined to be malicious may find qualification in comparing the obscure Latin verses quoted by Higden with Trevisa's rendering of them. It ought, however, to be borne in mind that the age of Trevisa was not an age of learning or of criticism; the errors which would be disgraceful in our time, are in some degree venial in the fourteenth century."¹⁹

It remains now to say a word about the life of this active vicar and translator from Cornwall. Few records have come down to us. We know that he was descended from a noted Cornish family, that he was a student at Oxford, that he was Vicar to the Lords of Berkeley and there translated important Latin works into English. Further than this, our records do not go.²⁰ His biographies give Crocadon, Cornwall, as his birthplace. There is good evidence this was the family seat of the Trevisa family in the sixteenth and seventeenth centuries. Crocadon is still the name of this beautiful farm with its rambling old stone house (sixteenth century) and its fragrant English garden, sheltered by hills at the back and by great spreading trees. It is situated at the head of a long, wooded valley extending down to the Tamar River which separates Cornwall from Devon. It is near the village of St. Mellion, six miles north from Saltash, which is opposite Plymouth on the Devon side.²¹

¹⁹*Polychronicon*, Vol. 1, ix, Rolls Edition.

²⁰In my edition I have set down in some order the known facts, pp. lv-lxxv. The only new information I was able to discover was the actual date of his death, 1402, from the unprinted registers in Worcester Cathedral. This summer a diligent search was made in Cornwall for new records regarding his birth, baptism and early education, but without success. The old church records, the cathedral registers, the records in the Cornish Castle muniment rooms revealed nothing. This part of his life seems to be a blank.

²¹To a student of Trevisa it was a great pleasure (continued on p. 289)

We have records of his life at Oxford, as a member of Exeter College, 1362-5, as Fellow of Queens 1369-74. We have fairly good records of his expulsion from Queens in 1379. We find records of his being at Oxford as late as 1386-7, and also in 1389-90. The reason why he, two other scholars, and the Provost were expelled by the Bishop is given in Patent Rolls 3, Richard II; "who have been excluded therefrom for their unworthinesse (exigentibus demeritis) and because they refuse to account for certain moneys of the college that came to their hands, and have taken away charters, books, jewels and muni-ments, besides goods belonging to the college."²² It has been suggested that the "unworthinesse" for which they were expelled lay in their acceptance of the heretical teachings of Wycliffe. During this interesting and exciting experience of expulsion from Oxford, he was serving the Lord of Berkeley as Chaplain, and it was through his influence as patron of learning and literature, that Trevisa left to posterity his noted translations.

I have shown that John Trevisa was a noted translator of the fourteenth century, and that his literary work is an effort to render into simple English some of the outstanding scientific, historical and religious material of his time. Let me conclude with the words of one of his students and admirers:

"We owe this good Englishman something for the works in English prose he called into existence — some not yet printed; may we not see in him another proof of what we owe to Chaucer — a language stamped with the seal of a great writer, henceforth sufficient for the people who speak it, ample for the expression of their thoughts and needs?"²³

²²Perry's edition, p. lxiv.

²³Steele, Robert: *Medieval Lore* (King's Classics).

to visit Crocadon this summer, to see the house, new since his day; to walk through the fields where he walked; and to attend the village church where the record of vicars dates back to 1280. It was here at Crocadon no doubt that the first real writer of English prose was born about 1330 (estimates of his birth-date run from 1322 to 1342).

THE NEW PHYSICS IN THE LIGHT OF THE OLD

F. ALLEN

IN THIS essay by sketching the history of the more significant discoveries in physics and the closely related subject of astronomy an attempt is made to show that the fundamental conception of the universe has in the course of ages slowly changed from a material form finally based on the absolute mechanical system of Newton, to one of an immaterial electrical nature culminating in the system of relativity of Einstein.

In the history of physical science four great periods of development may be discerned, each of which has a character peculiarly its own. The first period covers the seven centuries extending from Thales of Miletus (640-546 B.C.) to Ptolemy of Alexandria (70-140 A.D.).

Thales introduced two doctrines of fundamental scientific importance: first, that of a single elementary type of matter from which all other things are formed, and second, that of motion or change inherently associated with substance. The material which he selected as the primary element was water. His successors suggested, as more appropriate, fire, or air, or earth; and these four, water, fire, air and earth, gradually became known as "the four elements". To their properties Aristotle added his "quinta essentia", as characteristic of celestial bodies.

On the side of motion, Thales' views were indeterminate. His successors suggested oscillation, and (later) oscillation directed by the principles of Love and Hate, in order to account for social and cosmic evolution. By the time of Plato, twelve specifically distinct kinds of motion or change were recognized, and an attempt was made to relate them to the assumed axial rotation of a spherical cosmos.

The Eleatic School headed by Parmenides discovered a contradiction between the concepts of matter and motion. If matter was solid, continuous and infinite, motion became unthinkable. Yet motion appeared to be a fact warranted by sense-perception. In order to resolve this contradiction, the new conceptions (1) of atoms, internally solid but discontinuous and differing only in shape, size, and position, and (2) of an empty space in which these atoms could move, were invented by Leucippus and adopted for purposes of scientific explanation by Democritus. With the conception of atomism, the problems raised by Thales were regarded for many centuries as, in principle, solved.

The application of mathematics to physical problems was made by contemporaries of Parmenides, contemporaries who belonged to the Pythagorean Brotherhood. At first largely fantastic, the work of the Brotherhood, especially when associated with the Platonic Academy, became of far-reaching scientific importance. Later members of the Brotherhood, improving upon a tradition probably received from the older cultures of Egypt and Chaldea, suggested a heliocentric theory of the solar system, and it was in carrying further their suggestions that Copernicus eventually established this view. For the time being, however, this theory, proposed in some detail by Aristarchus (250 B.C.), was set aside by the great authority of Archimedes, as repugnant to observation and common sense. The alternative geocentric theory initiated by Eudoxus (370 B.C.) and carried further by Hipparchus (130 B.C.), became victorious. So elegantly was this theory, combined with the Pythagorean doctrine of crystalline spheres, elaborated by Ptolemy, that it commanded the assent of the learned for thirteen centuries, in fact, until the time of Copernicus.

During this first period, two other lines of investigation were initiated. Parmenides had suggested that the material world constituted a single continuous sphere: and it was an off-shoot of his school located in Megara which, under the leadership of the second Euclid (280 B.C.), investigated the forms and structures possible in space. Slightly earlier certain

members of the Pythagorean Brotherhood had investigated the nature of the five regular solids which can be inscribed within a sphere, and so elegant did the study of solid geometry appear to Plato, that he demanded, for its encouragement, State assistance.

In the second place, Thales records the fact that amber (in Greek, *elektron*), when rubbed with silk, acquires the power of attracting particles of light materials. From this simple origin has sprung the whole science of electricity. Magnetism, which derives its name from Magnesia in Asia Minor where the loadstone was discovered, was also recognized. The ancient speculations on the nature of light and colours were of the crudest character and led to no scientific development.

"From this brief *résumé* of the earliest era of science", as the writer has elsewhere remarked, "it is clear that the versatile Greek mind had grasped the idea not merely of elementary substances but of a single primary substance to which the natural world in every aspect could be referred. The rival hypotheses of the atomicity and continuity of matter were also developed and critically examined. Electricity and magnetism were experimentally recognized and gravitation was a subject of speculation. The properties of space had begun to be investigated. The antagonistic, or, from the standpoint of relativity, the complementary heliocentric and geocentric theories of the world were weighed against each other, and the latter, perhaps not altogether unfortunately, accepted. The incompatibility of position and motion of bodies was clearly pointed out. Light and colour were subjects of speculation though nothing of significance emerged from the discussions. The doctrine of energy escaped detection, though the word itself and a suggestion of its use occur in the writings of Aristotle."

During the thirteen barren centuries which elapsed between the first and second periods of science, the sterile physical doctrines of Aristotle and the futile astronomical theories of Ptolemy exerted a paralysing influence upon the scientific intellect of Europe. The Revival of Learning at length slowly

awakened a renewed interest in the almost obliterated knowledge of nature, which of necessity assumed the form of revolt against the complacent acceptance of the repressive dictatorship of antiquity. With his great work *De Revolutionibus Orbium Coelestium*, which the illustrious author was fated never to see in print, but only on his death bed to touch, Copernicus (1473-1543), a canon of the church, revived the heliocentric theory of the Pythagoreans and inaugurated the second great period of science, the age of revolt and reconstruction. It extended over a period of two and a half centuries, and again a brilliant succession of men of genius, culminating in Newton, illumined the world. Before the irresistible arguments of Copernicus, matured during the thirty-six years required for the composition of his work, and the later astronomical discoveries of Galileo which were made with the newly invented telescope, the venerable Ptolemaic system, unsupported by any scientific evidence, slowly crumbled in ruins. Copernicus was succeeded by the noble Danish astronomer, Tycho Brahe (1546-1601), who devoted his industrious life to the accumulation of the most accurate observations of the positions of the planets that had ever been made. His friend and pupil, Kepler (1571-1630), the founder of mathematical astronomy, assumed the laborious task of deducing the type of orbit into which the observations would fit with precision. In this investigation he was obstructed by the assumption of the ancient and medieval philosophers that the perfection of the heavenly bodies required them to move in circular orbits as the circle was held to be the only perfect curve. After years of incessant but futile calculations, Kepler at length freed himself from this misleading metaphysical subtlety and was at once richly rewarded by the discovery of his three great laws of elliptic planetary orbits.

With their discovery astronomy reached at once a climax and an impasse. The laws were formulated, but the foundation of the laws themselves was still unknown. Further progress had to await a new discovery. The ancient philosophers and scientists had erroneously concluded that a state of rest

was the only natural condition of a body. When a body was in motion, therefore, they supposed that a force must be continually pushing it from behind. For this reason the solid crystal spheres of the Ptolemaic system were imagined in order to carry the planets and sun in circular orbits around the central earth. When in the Copernican system they were discarded, Descartes (1596-1650) assumed the universe to be full of cosmic dust arranged in gigantic whirlpools with suns in the quiet centres and planets carried along in the rotating rims. While utterly untenable, the Cartesian system served a double purpose, for it ended the Aristotelian distinction between matter in the earth and that in the heavenly bodies, and it provided an imaginary mechanical cause of planetary motion of a type that was well known.

Galileo (1564-1642), the contemporary of Kepler, made the great discovery that a second natural state of a body existed, that of uniform velocity in a straight line, which was embodied by Newton in his first Law of Motion. In empty space, therefore, a body once put in motion will continue to move forever with the same velocity in a straight line without the action of any force. Neither Kepler nor Galileo realized the great significance of this discovery in the explanation of curved planetary orbits, and it remained for Newton (1643-1727) to show its enormous importance not only in astronomy but in all the operations of nature. While no force is required to maintain a body in uniform rectilinear motion when, as in space, there is no resistance to be overcome, a force is necessary to make the body move faster or slower or to change its course from a rectilinear to a curved path. These three changes in the magnitude and direction of motion are called acceleration, and for all accelerations a force is required. In applying these ideas to astronomy, Newton perceived that the force of gravitation acted between the centres of the sun and the planets, not in the line of motion of the planet but at right angles to it, and in this manner producing an elliptic orbit. Kepler, in his third law, stated the precise relation between the distances of the planets from the sun and the times of their revolution

around it, from which Newton inferred that the force of gravitation was proportional only to the quantity of matter in a body and not to its variety or state. From these considerations Newton was finally enabled to formulate and announce the law of gravitation, undoubtedly the greatest of scientific discoveries; and with it, in his treatise, *Philosophiæ Naturalis Principia Mathematica*, a work of unapproachable intellectual power, he established the whole immense system of astronomy and dynamics. To complete the system of the heavens required one more concept. It was impossible longer to maintain the Cartesian system of a universe filled with whirling particles. In Holland, Christian Huygens (1629-1695) had swept the whole system away and for it substituted the concept of space filled with a subtle immaterial medium which he called the ether, whose chief function he believed was to transmit waves of light of which he was the discoverer. In his new system of the world, Newton included the ether as the medium through which was transmitted in some unknown way the force of gravitation.

Newton also solved the problem of the origin of colours, which for two thousand years had baffled all inquiry, by his discovery of the spectrum through the dispersion of white light with a glass prism. This achievement probably ranks next to gravitation as the second greatest discovery in physics.

The existence of elementary substances, which is the foundation of chemistry, had been first suggested by Thales and carried down to the alchemists in the Middle Ages with only slight changes in the materials selected for that fundamental position. In this second period of science, Boyle (1627-1691), "the father of chemistry", first properly defined an element as a substance out of which nothing simpler can be obtained. From this definition chemistry originated which in recent times has had a gigantic growth.

Finally, by researches on the theory of the pendulum, which Galileo had invented, Huygens was enabled to apply it to clocks, and thus gave the world the first mechanical device for the accurate and continuous measurement of time.

The third period of physics, the era of electricity, energy and the correlation of the sciences, may be regarded as beginning in 1780 when Galvani, a physician of Bologna, made the sensational discovery that electricity applied simultaneously to the muscle and nerve of an isolated frog's leg evoked life-like contractions. In the fifty years before this date, however, four important discoveries in electrostatics had been made. The distinction between conductors of electricity and insulators was observed in 1729 by Gray in England. It was found in 1733 that there were two kinds of electricity, since called positive and negative, which, in the words of Dufay their discoverer, repelled themselves and attracted each other. The electric condenser, which enabled electric charges to be accumulated and stored, was invented in 1743 by Kleist, bishop of Pomerania, and a year later called a Leyden jar. By his celebrated experiment in 1752 with a kite flying in a thunderstorm, Benjamin Franklin proved the identity of lightning with electricity.

Following Galvani's observations, Coulomb, in France, laid the foundation of the mathematical theory of electricity and magnetism by finding the law governing the intensity of the forces of attraction and repulsion between unlike and like electric charges, and also of the forces between magnetic poles. The importance of this discovery is enhanced by the fact, whose significance is not yet understood, that these laws are similar in form to the law of gravitation.

In the University of Pavia, Volta in 1800 made the momentous discovery of the electric current and of the battery for producing it. A score of years later, Oersted, in Copenhagen, made the simple but profound observation that a magnetic compass needle lying parallel to a wire tends to set itself at right angles to it when an electric current flows through the wire. From this has been developed the powerful electromagnet which is an essential part of every dynamo and motor, of every telephone receiver and telegraph instrument, and of nearly every device for the measurement of electric currents.

Before these applications could be made, however, the

mathematical theory of the magnetic action of currents had to be developed, and this was done with remarkable rapidity and completeness by Ampère whose name is now used for the practical unit of the electric current.

An experimental discovery of almost unparalleled practical importance, the converse of that of Oersted, was made in 1831 by Faraday in London. The former found that electricity moving in a current exerted a magnetic force, while Faraday discovered that a magnetic field moving across a wire circuit generated an electric current in it. This is known as electromagnetic induction. In its practical form of the dynamo, Faraday's coil of wire is rotated by steam or water power between the two poles of an electromagnet, and from this device the powerful electric currents used in modern industry and transportation are solely derived. Thus Volta's discovery of the electric current, Oersted's discovery of electromagnetism and Faraday's discovery of induction are in combination the basis of all the remarkable applications of electricity to commerce and communication. To Faraday is also due the discovery of the laws of electrolysis, or the action of electric currents in breaking up chemical compounds partly into their elements, which have led to profound theoretical and to useful practical applications. In the latter case the laws form the basis of the methods of electroplating and of refining metals on a vast scale in mining, and in the former they led to the first indications of the atomic nature of electricity. Faraday also proved that the quantities of positive and negative electricity appearing in any experiment are invariably equal. With profound insight into the significance of his discoveries he directed attention not to the metal balls on which electric charges were collected, nor to the wires through which the current flows, nor to the iron of the magnet, but to the invisible ether surrounding charges, wires and magnets alike, in which the mysterious electric and magnetic actions take place. Thus the ether began to assume an electromagnetic character.

When a condenser is highly charged with electricity, the discharge appears as a bright spark. A flash of lightning is in

reality the discharge of a huge natural condenser. The possible structure of this spark began to excite curiosity. Lord Kelvin solved this problem mathematically. It was learned that the spark was not formed by a single rush of positive and negative charges together, but that it consisted of a number of surges or oscillations of the charges backwards and forwards which took place in an exceedingly small fraction of a second. The significance of this discovery was not realized until the later work of Hertz revealed it in its true light as a means of generating electric waves.

The researches of Faraday were entirely experimental; he never used a single mathematical symbol in describing them. But for their fullest value physical ideas must be expressed in mathematical form whereby new relationships among the phenomena can be deduced. The experimental discoveries of Faraday required such an interpretation, and it was the magnificent achievement of Maxwell, in Cambridge University, to carry them to their highest theoretical development in his treatise (1873) on the mathematical theory of *Electricity and Magnetism*, probably the only work in physics that is worthy of a position beside the *Principia* of Newton. Maxwell, from his mathematical equations, predicted the existence of electric waves in the ether which would travel with the velocity of light, one hundred and eighty-six thousand miles per second. For a dozen years Maxwell's prediction remained unverified until, in Germany, Hertz made the sensational experimental discovery of such waves which had all the properties theoretically ascribed to them. For this purpose he made use of the fact that the spark discharge of a condenser is oscillatory, from which he correctly concluded that under suitable conditions the device is a controllable radiator of electric waves. It is specially to be noted that the ideas of Maxwell, and their practical realization by Hertz, enormously enhanced the importance of the concept of the electrical nature of the ether.

In the same year in which the discovery of the electric current was made, Thomas Young observed that under proper conditions two rays of light would destructively interfere with

each other with the consequent disappearance of the light and the production of darkness. The undulatory theory of light, which had been theoretically founded by Huygens, was at last placed on a secure experimental basis. After some thirty years, Fresnel, in France, established the principle of interference beyond all the criticism in which Young's experiments were slightly involved; and with its aid he showed why light, though a wave motion, travelled in straight lines, which had first been observed by Euclid but never explained. In the hands of Michelson, in Chicago, towards the close of this period of physics, the interference of light became by far the most delicate of all methods of measuring lengths with the utmost precision, whether at one extreme of magnitude, it was employed in obtaining the enormous diameter of a star of one hundred million miles, or at the other extreme, in determining the minute quantities which lie at the basis of the theory of relativity of Einstein.

As a part of his great mathematical theory of electricity and magnetism, Maxwell proved that light could not be elastic waves in a mechanical ether as had been supposed, but that it consisted of electro-magnetic waves in an ether of an electrical character.

A notable development of the physics of the nineteenth century was concerned with the ideas of heat and energy. Throughout the eighteenth century heat had always been regarded as a weightless substance which was alternatively known as caloric or phlogiston. A hot body had in it a large quantity of caloric, but when the body cooled its caloric invisibly vanished away. The first experiments which led to the overthrow of this materialistic theory of heat and to its establishment as a form of energy, were performed by Rumford, in Bavaria, and more conclusively developed by Davy in England.

In France, near the close of the eighteenth century, Lavoisier, a victim of the Revolution, had proved the principle of the conservation of matter, which asserts that matter can neither be created nor destroyed by finite means. This idea was seized upon by Mayer in Germany, who first in 1842 showed that

heat and other forms of energy were also subject to the parallel law of the conservation of energy. The idea was later developed by Helmholtz and finally placed on an exact experimental basis in England by Joule.

Out of these new concepts of energy were developed the two laws of thermodynamics which form the basis of the operation of the great forces of nature in the atmosphere and oceans, as well as in the industrial employment of energy. They have given to the world the theory of the steam and other heat engines which have made the present era a mechanical age. To the development of this department of physics Lord Kelvin greatly contributed. In particular he pointed out the operation of the principle of the degradation of energy, by which is meant the gradual decline of all forms of energy into heat in a permanently unavailable form.

This era is pre-eminently the age of the correlation of the physical sciences. The identity of lightning or atmospheric electricity with artificially induced electric charges was proved by Franklin, and of charges with current electricity by Faraday. The further union of electricity and magnetism was shown by the discoveries of Oersted and Faraday, and by the latter the direct action of both magnetic and electric forces upon light was established. The correlation was completed by the development of the electromagnetic theory of light which has stood the test of prolonged experiment. Electricity, magnetism and light are therefore now to be regarded, not as three different subjects, but as parts of the single subject of electricity. By the discovery of the dynamical equivalent of heat and of the further electrical equivalent of heat, the sciences of mechanics, heat and electricity were all correlated. In addition to these remarkable advances in knowledge, the theory of atoms was more highly developed, and many new elements of matter, that is, new types of atoms, were discovered, whose properties were shown by the Russian chemist Mendelieff to be periodic functions of their atomic weights.

The beginning of the fourth and present age of physics, or the age of the electron and relativity, is separated from the

close of the third period, not by an interval of time, but by a startling change in fundamental concepts. It was sensationally initiated by Roentgen's discovery in 1895 of a new and unsuspected type of radiation which from its unknown nature he called X-rays, and in the following year by Becquerel's discovery of a new and extraordinary property of matter called radioactivity. These two discoveries, together with the theory of relativity, have accomplished the most profound revolution in the ideas of nature which has ever occurred. The bewildering multitude of new phenomena recently brought to light, are found to arrange themselves along three lines of advancing knowledge, atomic physics, cosmic physics and field physics or the physics of space, which, it is confidently hoped, will ultimately lead to the solution of the problem of the nature of the physical world. In the first division the methods of investigation are experimental, in the second observational, and in the third mathematical, all of which are necessary and supplementary to each other.

The investigation of radioactivity by Professor and Madam Curie led to the discovery and isolation of radium, the most remarkable of all substances. The rays which are spontaneously emitted by it have been analysed by Rutherford and his school into three kinds, the first consisting of electrons or atoms of negative electricity, the second of atoms of helium gas, and the third of very short X-rays. To account for their origin Rutherford suggested a planetary type of atom consisting of a complex nucleus of protons, or atoms of positive electricity, cemented together by nuclear electrons, around which revolve other planetary electrons, like planets around the sun. Electrically the planetary atom, as it is sometimes called, is perfectly balanced. When the planetary electrons are detached from the atom they form by themselves a negative electrostatic charge, and the remainder of the mutilated atom constitutes a positive charge. When free electrons move in a wire they form the electric current, and when they oscillate rapidly in a conductor such as the aerial of a broadcasting station, they shake the surrounding ether into tremulous

motions which are electric waves spreading out into space in all directions with the velocity of light.

Parallel with these researches were those of Sir J. J. Thomson and his students in Cambridge, who investigated the fascinating electric discharges in vacuum tubes now rendered familiar by the neon tubes of modern advertising. In such tubes cathode rays are generated which are found to be streams of electrons. Though electrons are of infinitesimal size and mass, yet because of their high velocity of scores of thousands of miles per second, they possess enormous energy which, when they hit a metal target in the tube, is transformed into X-rays. In the atom itself the electronic energy is also transmuted into short X-rays. Apparently a vacuum tube and an atom are in some respects comparable with each other.

Since atoms consist primarily of dynamically stable configurations of electrons and protons differing from each other in number and arrangement, it becomes possible to detach electrons from the outer group and protons from the nucleus and thus reduce the atom to one of lower atomic weight. Radium spontaneously undergoes such disintegrations, not only losing planetary electrons but portions of its nucleus as well; and after passing through several intermediate stages arrives at a final condition in the form of lead. When heavy particles are hurled with great velocities into atoms, transformations may be artificially induced. Thus both by natural and artificial means the transmutation of elements, conceived by the alchemists in the Middle Ages, is now an accomplished fact. The fixation of elements is no longer accepted.

By bombarding the elements with electrons, Moseley, a lamented victim of the unfortunate Gallipoli expedition of the Great War, brilliantly succeeded in proving that an element of matter exists for every whole number from one to ninety-two, which are the numbers corresponding to hydrogen, the lightest, and uranium the heaviest element. Between these extremes no element other than those already known can exist. Whether anything heavier than uranium has existed in the past, or exists now, is a question awaiting an answer, though

at least one claim in the affirmative has been made. Further research has brought to light other constituents of the atom such as neutrons and positive electrons, or simply positrons, while it is suspected that negative protons may possibly yet be found. The mysterious cosmic rays may also prove to be electrons, or at least corpuscles, travelling with velocities approaching that of light, and thereby manifesting themselves as the possessors of enormous stores of energy.

When radiant energy enters an atom it does so as a definite amount or quantum which cannot be subdivided. Half a quantum by itself does not exist. Within the atom, light behaves as if it were corpuscular in structure, and, as such, an elementary quantity is called a photon. When a quantum of energy is received by a planetary electron, it moves from an inner to an outer atomic orbit or energy level. In falling back to its original orbit the electron emits energy of a definite frequency or wave length. Thus the new theory of matter involves both a new atomic theory of energy and, at least in part, an atomic theory of light. Since in many phenomena light behaves as waves and in others as corpuscles, some new basic theory reconciling both opposing concepts is urgently needed and will doubtless shortly emerge.

The necessity of accounting for specific electronic orbits has led to the development of wave mechanics in which the electron no longer appears as a spherical particle but as an ethereal wave-packet in the undifferentiated ether, and in some way it holds itself together without losing its identity. The electron in essence though not in state is thus identified with the ether.

In the vast realm of cosmical physics equally startling changes in ideas have taken place. Stars no longer can be regarded as mere luminous bodies, but as furnaces at enormously high temperatures where matter undergoes changes unattainable on earth. In the interior of a star temperatures of a hundred millions of degrees have been calculated, though the surfaces never exceed a thousandth part of that extreme. Since in burning no substance could possibly generate such high degrees of heat, it is now believed, though still unproved,

that stellar radiation is derived from the transformation of mass into energy. Should that revolutionary idea be true, the sun must radiate into space its mass at the rate of five million tons per second, of which about five pounds fall upon the earth to supply its infinitely diversified requirements.

While a proton has the same quantity of electricity as an electron, though opposite in character, its mass, by virtue of its smaller and more concentrated size, is over eighteen hundred times as great. If the planetary electrons which keep the atoms apart could be stripped off, the massive nuclei could be packed far closer together and the density of matter enormously increased. This rare condition, which seems terrestrially impossible to obtain on a perceptible scale, is apparently found in the white dwarf stars, on one of which, it is now discovered, matter has the remarkable density of one ton per cubic inch, and on another double that high value. If terrestrial matter had that immense density, life would be impossible except perhaps in minute organisms the size of germs.

Near the close of the third period of physics, Michelson and Morley, in the United States, following a suggestion of Maxwell's, performed an experiment which has become justly celebrated as the basis of the theory of relativity. Since the earth moves through space in its revolution around the sun only in the direction from west to east, it has no motion in the perpendicular north-south direction. Assuming the ether to be motionless, it was believed that the absolute velocity of the earth through space might be detected and measured by comparing the velocities of light simultaneously in the west-east and north-south directions. For this purpose the extremely delicate indications of the interference of light were skilfully employed. To the surprise of the experimenters no indication of a significant difference of velocity could be detected. The experiment, therefore, was regarded as a failure since it gave a negative result. After much discussion, the suggestion was made that the reason for the failure is the probability that the length of the apparatus in the direction of its velocity became

shortened by virtue of the motion through the ether, while the length in the direction at right angles to the motion remained unaffected. This explanation was later seized upon by Einstein, who made it one of the chief foundations of the theory of relativity by asserting it to be a proof that the adjustments of matter and motion were such that absolute velocities in the universe were impossible ever to detect, and that all motions were merely relative to each other. This theory of relativity has since transformed the whole basic structure of physics.

The problem of the nature of space begins, as it was previously remarked, with Euclid, who was the first to investigate systematically its geometrical properties and to demonstrate the forms and structures which are possible in it. Space, as the human mind conceives it, is three-dimensional in character, and a fourth dimension of the same kind as the other three is impossible to imagine. But this fact does not prevent such a concept from receiving mathematical expression, and various kinds of space of such a type have been invented by mathematicians. Minkowski, however, has introduced a new kind of four-dimensional world in which three dimensions are of the Euclidean type and the fourth is time so expressed that it is susceptible of geometrical treatment in combination with the other three. In the new theory of relativity, Einstein has incorporated this idea so that space and time are no longer separate entities but form a single space-time continuum. In the new concept of the world the fundamental quantities of physics, mass, length and time cease to have absolute values, and the dimensions of the first two are now held to vary with their motions. In the extreme case, when a body attains the velocity of light, which is the limiting velocity of matter, its mass becomes infinitely great, and its length, measured in the direction of motion, zero. The measurement of time also varies with the velocity of the time-piece, so that, in the limit, seconds are indistinguishable from eternity. The interaction between matter and space causes some unknown modification of the latter by virtue of which gravitation and other forces are transmitted and act upon bodies at a distance. Einstein

has further derived a new law of gravitation which excels Newton's in accuracy and leads to several verified conclusions to which the former law does not apply.

Faraday, in his effort to correlate all parts of physics, tried to discover a connection between gravitation and light. His experiments were unsuccessful for the reason, which has now become clear, that the effect is far too small to be detected in the feeble gravitational field of the earth. Einstein suggested that the sun be used as the attracting body (since its gravitational force is twenty-seven times that of the earth) and a ray of starlight passing near its surface as the object of observation. During a total eclipse of the sun, stars near it were observed and their rays of light were found to be deflected from their rectilinear paths nearly to the amount that Einstein had predicted. The remarkable success which attended this anticipation practically established the theory of relativity on a secure foundation.

Until recently the universe was held to be infinite in extent though the stars themselves are finite in number. By the advent of relativity this view in part is now profoundly changed. Infinity has vanished; and the universe is regarded as finite in volume with no boundary, having a radius of curvature but no centre. The gravitational influence of matter, it is believed, imposes a curvature upon the space-time continuum constraining all rays of light to travel in curved lines of vast extent which, after the lapse of immense periods of time, will return to their starting points like travellers circumnavigating the world.

It has always been assumed, even by Einstein, that the universe is a static mechanism in which the revolutions of bodies occurred with almost unchanging distances from the centres of attraction. But the Abbé Lemaître has recently proved that a static universe would be unstable and therefore it must either contract or expand. At the same time it was observed that the innumerable galaxies of stars are actually receding from the earth with velocities increasing proportionately to their distances. Galaxies so remote that their light

requires one hundred and fifty millions of years to reach the earth are travelling away at the high velocity of fifteen thousand miles per second, or rather they were doing so that many millions of years ago when the light now reaching the earth left its retreating source. In the absence of any other acceptable explanation, these facts were held to prove the correctness of the theory of the expanding universe. But if now expanding, the universe must once have been a single compact mass which for some unimagined reason exploded, and the galactic fragments are still more widely separating under the influence of some cosmic force of repulsion. But instead of the galaxies receding through a stationary space-time continuum, it has been suggested that the primary expansion is that of space itself which is carrying the entangled galaxies with it towards a constantly approached but never attainable infinity. Which-ever explanation is adopted, the final result differs little, for in the course of ages the mutinous stars must all disappear from the vault of heaven, leaving for the apprehensive remnants of future humanity the planets encircling the dying sun as the lone visible occupants of space.

As the fourth period of physics has doubtless not yet reached the height of its development, it is premature to assess its significance, though its present outstanding achievements may be tentatively summarized. The third period closed with the atom still the ancient indivisible unit of elementary structure, the fourth period opened with, and is indeed founded upon, the demonstration of its labyrinthine corpuscular structure, while the principle of atomicity has also been extended to electricity and, in part, to light. At the close of the third period matter was one thing, electricity a second and the ether still a third, all essentially different; the fourth period discloses them to be essentially the same. The phenomena of electricity at rest and in motion are recognized as modes of behaviour of the electric constituents of atoms, or the phenomena of electricity are properties of the atoms of so-called matter in a state of separation; while, conversely, the properties of matter are the properties of balanced systems of opposite electric charges.

The electron has ceased to be regarded as a particle floating in the ether like a mote in the air, and is found to have an undulatory structure as a wave-packet in the ether itself with which in essence though not in form it is now identified. In previous ages the concept of the atomic was sharply distinguished from the continuous state of matter; in the present period, the electron, because of its wave-structure, cannot have its boundary with the undifferentiated ether precisely delineated, and in a measure, therefore, it possesses the character of both atomicity and continuity. Light in some phenomena is found to have a corpuscular, and in others an undulatory structure, and is therefore urgently in need of a theory to reconcile both apparently incompatible aspects. In the third period matter and energy were separate entities individually subject to the law of conservation. In the present period matter is mathematically indicated, though not yet experimentally found, to be transmutable into energy, while neither separately, but only their sum, is conserved.

Formerly the fundamental quantities of nature, mass, length, and time were regarded as possessing absolute values under all conditions. With the advent of relativity, absolutism in physics has vanished, except as regards the velocity of light in space, and it is now held that the mass and dimensions of bodies and the indicators of time are exquisitely sensitive to motion and automatically adjust their values to their velocities. Space and time no longer appear as separate entities, but as the extraordinarily diverse components of a single space-time continuum among whose blended properties is found the power of transmitting gravitation and all forces of nature which stamp the universe with the character of unity.

During the present century the outlook upon the physical world has been profoundly changed in four ways. First, by the discovery of the divisibility of the atom; second, by the introduction of relativity; third by the discovery of the atomic or quantum nature of radiant energy; and fourth, by the uncertainty principle of Heisenberg, which, like Zeno's ancient pronouncement that a body cannot move where it is, states

that a particle cannot simultaneously have both position as well as velocity. Position implies rest even if it be but for an instant, and a particle obviously cannot be at rest and in motion at the same time. With an ultimate particle, like the electron, continuously having high velocities, the most that can be said for its position within a limited volume of space is that it is more likely to be found in some one calculated region than in any other.

In the prolonged course of the history of physics covering twenty-five centuries, which has now been reviewed, two different modes of the explanation of phenomena have gradually emerged, first, the mechanical, and, second, the electrical; both ultimately leading to concepts of the ether but of widely differing characters. After Huygens had first assumed the ether to carry waves of light, other ethers were invented for planets to swim in, to provide a medium for electric and magnetic lines of force and for the transmission of the force of gravitation. A single ether was at last devised with properties suitable for all requirements. It was assumed to be a solid of almost infinite elasticity and of infinitesimal density with a rigidity two thousand times greater than that of steel in order to sustain the enormously great frequency of light waves of about five hundred trillions of vibrations per second. Since this function was so conspicuous, the medium was generally called the luminiferous ether. As planets in their revolution around the sun experience no perceptible lengthening of their years, no retarding force exists, and the ether was accordingly assumed to be frictionless. If it were granular in composition like matter, another ether would have to be assumed to carry forces from one particle to another. Such reasoning would ultimately lead to an infinity of ethers. The universal medium is therefore believed to be continuous in structure and in this respect to differ from all forms of matter. These properties are obviously all mechanical in nature, and upon this concept of the ether the whole system of Newtonian astronomy and mechanics was founded. In it were fitted, as far as they could be, the phenomena of electricity and magnetism. In such a

medium indivisible atoms with their highly diversified and mysterious properties moved and collided like groups of elastic balls with no mutual influence of matter and ether on each other.

Plausible explanations of phenomena may for a time be derived from an erroneous hypothesis. But its impotence will eventually be shown by becoming a barrier to further investigation like the Aristotelian physics and the Ptolemaic astronomy. This surprising condition was about reached near the close of the nineteenth century after a hundred years of unparalleled progress in science.

The unpretentious observation of the electrification of amber, which Thales perhaps made but certainly recorded, like the grain of mustard seed the smallest of all the seeds of science, was destined in the course of ages to grow into the greatest of all trees beneath whose branches all the phenomena of physics would find shelter. For over two thousand years the seed lay dormant in the unproductive soil, until Dr. Gilbert first stimulated germination by his experiments in terrestrial magnetism about 1600. For nearly a century more, growth was very slow but very sure. Two opposite kinds of electricity were discovered, conduction was distinguished from insulation, and the accumulation of electricity in condensers was detected. The discovery of the electric current opened a new era in the investigation of electricity, magnetism, the ether and of physics generally. In impressive though slow succession throughout a century, followed the discovery of electromagnetism, electromagnetic induction, electrolysis, electric oscillations, the electromagnetic nature of light, electric waves, the atomic nature of electricity and the electrical constitution of matter, all of which have combined to transform the mechanical world of former ages into the electrical world of the present era. The three avenues of approach to the explanation of this new world, atomic physics, cosmical physics and field physics, are evidently now converging upon the ether itself from which matter is differentiated not in essence but by some permanent singularity of constitution. Though the

ether is everywhere about us, it is accessible through matter alone, and only by means of the electric, magnetic and gravitational forces, which in some unknown way matter exerts, it is possible for us to lay hold of it and bring it in some measure under control. Thus, for example, in radio-broadcasting, a volume of the ether far greater than that of the earth can be shaken into oscillations for the almost instantaneous transmission of intelligence. Since, fundamentally, the world is now seen to be electrical instead of mechanical in its nature, a new and different system of physics has become necessary, and this need has been supplied by Einstein with his theory of relativity. The world in consequence has ceased to be one of absolute quantities and dimensions, all of which are now found to be influenced by, and hence are relative to, motion. In this new relativity world not only are the fundamental quantities of mass, length and time variable in magnitude with velocity, but even the positions of the moving ultimate particles, of which all matter is composed, are uncertain.

GROWTH, NORMAL AND ABNORMAL¹

WILLIAM BOYD

GROWTH is an attribute of all living things. Julian Huxley has defined it as "the self multiplication of living substance." Cessation of growth means stagnation and, eventually, death. The tissues of the body of an animal or plant are composed of an infinite number of units, the cells. Growth is the result of one cell dividing into two. Lorrain Smith describes the process of growth as "a procession of cell units in which each member in its turn disappears in producing its successors. The units increase in number as the procession moves onward. Generation succeeds generation until the tissue is formed."

At the beginning of life growth is very rapid, then the tempo slows down, and finally growth of the body as a whole ceases, although the individual parts may continue to increase in size. The size to which an animal may grow is not determined by chance. It is more or less fixed at the time when the sperm cell gives the fertilized ovum that strange impulse to increase which constitutes the beginning of the life of the individual, fixed by what Lucretius would call "the nature of things", fixed, as we say, by the genes on the chromosomes which form the physical basis of heredity. The cell, the ovum, from which both the mouse and the elephant start is of much the same size, and the mouse cells never differ much in size from those of the elephant, but the limit of growth is soon reached in the one, long delayed in the other. At one time it was thought that an organ, or the body as a whole, increased in size through increase in size of the constituents of which it was composed. We now know that this is not true. It is true that when a cell divides into two each of the new cells is at first smaller

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than the original cell; but the offspring soon regains the size of the parent, through absorbing nourishment from its surroundings. We therefore arrive at this conception—that the size of an animal depends, not upon the dimensions, but upon the number of its cells. Growth is fixed.

The factors that govern and stimulate growth are numerous and complex. Among the factors necessary for growth, food is one of the most important. The relation between food and growth is too complex a subject to be considered here, but reference may be made to the growth-stimulating substances known as vitamins. The best example of a vitamin-deficiency disease leading to stunting of growth is rickets, in which the lack of vitamin D interferes to such a degree with the development of cartilage into bone that the child may become a dwarf. Growth is also dependent upon an adequate supply of other vitamins.

In addition to the vitamins, the secretions or hormones of certain of the endocrine (ductless) glands are necessary for proper growth. The growth-stimulating hormone of the pituitary is so essential that when it is deficient in amount the individual becomes a dwarf, when it is excessive he becomes a giant. The hormone of the thyroid gland is necessary not only for the growth of the skeleton but also for the development of the mind; without this necessary stimulus the child will be a cretin.

From the point of view of medical science cessation of growth is as important as its continuance. Picture what would happen if a limb or an organ should continue to grow after the period at which growth should normally cease. The person in whom this occurred would either develop into a monstrosity, or be killed by the excessive growth of the organ. In this transgression of the law which says "thus far and no farther" we catch our first glimpses of the dark problem of tumour growth and cancer. We think it natural that growth should stop, but in a way this is quite as remarkable as that growth should start. Instead of asking ourselves how tumours occur, we might ask—how is it that they do not always occur?

Most tissues, though they stop growing, have the power of resuming growth. Were it not so, the surgeon would be unable to continue his craft, for repair would be impossible. When a piece of the liver or the thyroid gland is cut away the loss is made good by multiplication of the cells which remain, and the original bulk of the organ is restored, although this is not true of so highly differentiated a structure as the brain. The most striking example of repair is afforded by the fibrous or connective tissue which lies under the skin. In adult life this is an entirely quiescent structure with no suggestion of a power of proliferation. But let the surgeon's knife pass through it and at once, even though fifty years have elapsed since growth has ceased, the cells begin to proliferate, bridge the gap, and sew together the edges of the wound. What can this mean? Surely only one thing; the cells must contain some growth-promoting substance which is liberated from their bodies as the result of injury, and which stimulates them to multiply until the needs of the body are satisfied. The idea of cells containing substances which can stimulate them to divide at any period of life is highly suggestive in relation to the problem of cancer.

Normal cells in adult life may show remarkable powers of multiplication, but they know when to stop. In other words, growth is restrained. Of what constitutes this restraint we have only the vaguest ideas. The needs of the tissue appear to be an important factor. In the experiment already cited, in which a piece of liver or thyroid is removed, the liver or thyroid cells proliferate until enough of the organ is formed for the needs of the animal.

Not only do the connective tissue cells of the subcutaneous tissue proliferate. The much more highly specialized epithelial cells also possess this power. Otherwise the raw surface of the wound would not be covered over. As a matter of fact the skin is one of the most remarkable structures in the body. It is exquisitely soft, and yet it can stand an amount of wear and tear which no brake lining would put up with. It covers everything as tightly as a glove, and yet it gives with every

movement. It regulates the temperature, excretes waste products, and forms an important source of vitamin D. Its growth keeps pace exactly with the needs of the body. No matter how quickly the child may grow, his skin also grows at exactly the right rate. The cells on the extreme surface do not grow; they have become so specialized that they have lost the power of multiplication. There is, however, a basal layer of cells which are not differentiated, and it is in this layer that growth occurs. The newly-formed cells, as they become differentiated, are gradually pushed to the surface, where they are finally shed off as scales. Let us examine this basal germinal layer for a moment. One cell divides into two. Now if both of these become differentiated and move to the surface there would soon be nothing left of the germinal layer. So the two new cells must differ from one another in some subtle way; one remains behind, whilst the other moves off to foreign fields. The same is true of the cells in the bone marrow which manufacture the circulating blood corpuscles. Of the two cells which are formed, one is taken and the other is left. This is a remarkable and beautiful arrangement. It is a principle which must hold for any tissue in which the process of differentiation is continually going on. Whether these facts have any bearing on the problem of tumour growth we do not at present know. It is possible that some day they may provide us with a method of controlling the undisciplined growth which we designate as cancer.

Differentiation inhibits growth. When cells have become completely differentiated or specialized, growth comes to an end. Red blood corpuscles and nerve cells are examples of differentiation carried to an extreme. Strangely enough, differentiation can be prevented by removing the cells from their normal environment in the body and growing them in artificial culture media outside the body. When this is done, growth can go on free from the restraint of differentiation indefinitely and seemingly for ever. Apparently it is the influence of the immediate surroundings, i.e., the environment, which makes for differentiation, but at the same time robs the cell of its

reproductive power. When the usual environment is changed, the cell, like Cleopatra, feels immortal longings on it. We seem to have conferred an immortality on the tissue in the culture tube.

The successful cultivation of living cells removed from the body and under artificial conditions is one of the most remarkable triumphs of modern biology. When a body dies, all the cells which constitute its organs do not die at once. They live for a time, and if removed from the body and placed in a suitable medium some of them may continue to grow and multiply. Nor will this growth cease when the natural span of life of the animal from which the cells were removed is reached. Old age is evidently not a property of the cell itself, but of the environment by which it is surrounded. Alter that environment, and the cells may go on multiplying for ever; the tissue has become immortal. It must be admitted that this immortality cannot be attained by adult cells, on which the fingerprints of age and the sharp tooth of time have already left their mark. But when cells from the embryo are used, cells on which the deadly limits of differentiation have not yet been set, endless youth, if by that we mean boundless power of propagation, appears to be their lot. It is evident that the method of tissue culture places in the hand of the experimenter a weapon of great power, for he can observe under the simplest conditions the behaviour of growing cells in response to growth-promoting substances, to such poisons as alcohol, to growth-inhibiting factors such as X-rays and radium, and so on. A moving picture can be taken of the process under the microscope, and then greatly enlarged and speeded up, and such a picture provides the initiated with a thrill which no production of Hollywood can hope to rival. One seems to be looking at the seething cauldron where nature is bringing forth new beings. It is a glimpse behind the scenes of life which for ever after gives one a new idea of living matter. Many malignant or cancerous tumours, which are essentially undifferentiated tissues, can be readily grown in culture outside the body, and it is especially in this field that the study of the action of X-rays

and radium on cell growth is of the greatest value. By this method it can soon be determined that the cell which is vulnerable is that which is actively dividing, whereas in the resting or growing stage it may be highly resistant. The varied behaviour of different tumours when exposed to radiation is also highly instructive.

The most sinister manifestation of abnormal growth is cancer. A cancerous or malignant tumour is not something introduced into the body from without. In this respect it differs from infectious disease. It is merely a multiplication of the original cells of the part. Cancer of the liver is formed of liver cells, cancer of the skin of skin cells, and so on. Its chief distinction is autonomy. A tumour is an autonomous growth, unmindful of the tissues in which it grows and which serve to support and nourish it. The cells of an organ such as the liver are members one of another. They work in partnership. Some of the cells are resting whilst others are working, and presently the resting cells will resume full activity, whilst the former workers rest. Such is not true of tumours. They live unto themselves. A cancer may drain the life blood of a patient until he is wasted to a shadow, while it waxes gross and multiplies exceedingly. The cancer cell does not become differentiated. It is not influenced by the environment in which it lives, provided it gets plenty of food. It shows no sign of senescence. It does not keep step with the normal processes of life. It therefore presents a unique biological problem, different from anything else with which we are acquainted in the world of living matter; and it is a law unto itself.

It can be compared with the artificial culture of embryonic tissue, which, as we have already seen, possesses the same furious capacity for growth and reproduction, with utter disregard of differentiation. At first sight it may seem that the cancer cell has been endowed with new and transcendent powers of growth, but on deeper thought it becomes apparent that the real fault may consist in a breaking down of the barriers of growth restraint, thus liberating the potentiality for growth with which most cells are endowed. It becomes evident that

the solution of the problem may be provided not by a frontal assault on the tumour itself, but by a study of the fundamental processes of growth and growth restraint. Just as the open sesame to the mystery of infection came from Pasteur, a chemist, and as the dark problem of the defence mechanism of the body against bacteria was illumined by Metchnikoff, a zoologist, so the Everest peak of cancer may be scaled by some quiet worker far removed from the field of practical medicine. The endowment of research for some strictly specified and limited purpose is not the most likely method of attaining the object of the donor.

It was in 1902 that Jensen, in Denmark, first demonstrated the possibility of transplantation of tumours. When a piece of tumour occurring spontaneously in an animal is transplanted into another animal of the same species, a new growth will develop in the second animal. Since the second animal must be of the same species as the first, this method of study is not applicable to human cancer, but a number of important facts have come to light through the application of this method. For one thing, it is possible to study the life of the tumour irrespective of the life of the animal in which it is growing, since the tumour can be transplanted from one animal to another through a long series. By this means it is found that the life of the tumour may long outlast the life of the mouse from which it was originally obtained. In many cases, indeed, it appears to be immortal, just as the tumour growing in tissue culture was immortal. It must be understood that when a tumour from mouse A is implanted in mouse B, the new tumour is not derived from the cells of the animal host in which it is growing, but from the original mouse A. This is true no matter through how many animals the tumour may be passed.

Many of the phases of tumour immunity have been studied in relation to transplanted tumours. Thus, if a tumour is transplanted and then excised, it is not possible to transplant more of the same tumour a second time. The tissues of the animal have become resistant, or, as we say, immune. If

tumour tissue is radiated outside the body and is then injected into an animal, the tumour will grow for a short time and then die, but the animal will be found to be resistant to inoculation with unirradiated tumour. Of the nature of this immunity we are profoundly ignorant, but it is possible that lymphocytes may play some part in the resistance to cancer. The possible role of the spleen, the organ richest in lymphocytes, is illustrated by the following observation. We have already seen that tumour tissue from one animal can only be transplanted with success into another animal of the same species. But mouse or rat or even human tumours will grow in the chick embryo, being introduced through a window in the egg shell which is then resealed. Tumour growth stops, however, at the twentieth day of embryonic life, the time at which the spleen begins to develop. This date is set much earlier if splenic tissue is introduced through the window at the same time as the piece of tumour. Many other instances could be given of the way in which information about tumours can be obtained by the method of experimental transplantation, but the above examples must suffice.

The second great step was taken by another Dane, this time Fibiger, who was the first man actually to produce cancer in an animal experimentally, as compared with the mere passive transfer of a tumour from one animal to another. Fibiger at the time was not working at cancer but at the entirely unrelated subject of tuberculosis. In the course of this work he noticed that three of his experimental rats developed cancer of the stomach, and on examining these tumours under the microscope they were found to contain fragments of what proved to be a worm. Fibiger then forsook the study of tuberculosis and devoted himself to tumours. He fed this type of worm to hundreds of rats, but never succeeded in producing cancer. Then he learned that when rats are fed with cockroaches they develop worms in the stomach, as the worm passes part of its life history in the cockroach. Fibiger combed Copenhagen for cockroaches which he fed to rats; many developed worms, but none developed cancer. Finally in a sugar refinery he found

rats living together with a different type of cockroach. Most of the rats had worms and some had cancer of the stomach. He took these new cockroaches, fed his laboratory rats with them, and obtained cancer. For the first time in history cancer had been produced at will, and for this work Fibiger was awarded the Nobel prize.

And yet this was a feat hardly calculated to arouse wild enthusiasm. To produce tumours in rats by feeding them on cockroaches so that they developed worms was well enough in its way, but it seemed to bear little relation to the problem of the production of cancer in man. The last and greatest step was taken in 1915 by the great Japanese bacteriologist Yamagiwa. It had long been known that workers in coal tar and paraffin oil were liable to develop cancer of the skin. Yamagiwa and his colleague Itchikawa applied this knowledge to the experimental production of cancer in animals. They painted the ear of a rabbit with tar every three days week after week, but nothing happened. With Oriental patience they persisted for 150 days, and at the end of that time a cancerous tumour appeared on the tarred area of skin. The investigator was now in possession of a simple method by which he could produce cancer at will in a laboratory animal. Others had walked along the same path as Yamagiwa and Itchikawa, but none had arrived at the goal. Like Childe Roland they had come to the dark tower, but none of them had set the slug-horn to his lips. Forty years ago a German painted a rat with tar for many months; he had Teutonic patience, but he used the wrong animal; had he used a mouse or rabbit he would have succeeded. A Frenchman did the same with a dog for five months; again the wrong animal. An Englishman used a rabbit, but only for a few weeks; the time was too short. The right tar, the right time, and the right animal must be used.

When we try to penetrate a little beneath the surface and understand what is going on, we at once find ourselves in tremendous difficulty. The carcinogenic or cancer-producing agent does not need to be applied until the tumour actually appears. It can be stopped long before that date, but the cancer

will develop none the less surely. As a result of the continued stimulus some mysterious change takes place in the cell which endows it with the power of disregarding the inhibition of its environment, of multiplying endlessly, of becoming potentially immortal. How can we conceive such a thing to be possible? It is small wonder that cancer remains the greatest enigma of biological science, the sphinx whose riddle it seems almost hopeless to try to read.

When a large area of skin is tarred, only a very small part becomes malignant. That is a strange fact in itself and not what one might have expected. If the cancerous area be excised, another part of the tarred area may become malignant. When this is excised, still a third area may become malignant. What does all this mean? It would appear that the entire tarred area becomes *potentially* malignant, but that the actual malignant change is confined to a small area which in some way inhibits the development of cancer in the area at large. Removal of the tumour breaks down this inhibition. The only safe thing to do is to excise the whole potentially dangerous area. So it is with cancer of such an organ as the breast. No matter how small the tumour may be, even though it be only the size of a pea, if it is malignant the whole breast has to be removed.

I have written as if some external carcinogenic agent such as coal tar or X-rays was all that was needed for the production of cancer. That is far from being the case. In cancer, as in infectious disease, there is an intrinsic factor which we designate the constitution of the patient. This in turn is largely determined by heredity, the physical basis of which is furnished by the chromosomes, those minute rods of matter which inhabit the nucleus of the cell. At first sight it appears unbelievable that the tendency to the development of a particular tumour in a particular organ could be transmitted from generation to generation, but that is no more incredible than that the Hapsburg jaw, or blue eyes, or haemophilia, or mathematical ability should be carried by the chromosomes, and we know definitely that these characters are carried by this means. In the mouse,

heredity plays a most important part in determining the occurrence both of spontaneous and of experimentally produced cancer, and in man certain tumours, such as glioma of the retina and malignant papilloma of the colon, show a very marked familial incidence. One need not be unduly alarmed on discovering that cancer has occurred amongst one's ancestors, because there are many disturbing variables in human heredity, and an extrinsic exciting factor is usually, though not invariably, required in addition to the constitutional intrinsic one.

In this brief review our peripatetic survey has revealed that growth is not only the most fundamental but also one of the most fascinating of biological problems, that it is controlled by a number of factors the disturbance of which may result in dwarfism or gigantism, that growth and differentiation are mutually inhibitory, that this inhibition may be overcome by removing cells from their environment and allowing them to grow in tissue culture, that cancer is the supreme example of freedom from restraint, and that the solution of the cancer problem may consist in devising a method of imposing some degree of restraint from without.

AN ESSAY ON BIOCHEMISTRY

(*What it is; what it does*)

A. T. CAMERON

IN CONSIDERING any subject it is at least useful, and may even be deemed indispensable to accuracy, to consider the precise meaning of its name, though the meanings of terms are sometimes a little fluid, and can change over periods of time. "Biochemistry", however, is a new word, a twentieth-century word, whose meaning should be fairly definite. It has almost completely replaced the older "physiological chemistry", perhaps because its meaning is a little less restricted. The term is potentially derived from the Greek *bios*, life, and *chymos*, juice. From the latter word, through centuries of changing meaning, came "alchemy", and then "chemistry", the science which treats of the intrinsic composition of substances and the phenomena associated with their interactions. Biochemistry, the term, thus implies the chemistry of life. But, thinking of *bios* and *chymos*, one is tempted to define it as the science concerned with the essence of life. The exaggeration is akin to truth.

Biochemistry, then, is essentially a science. But the sciences, the arts, *belles lettres*, are not necessarily opposed or even exclusive fields. "Science" suggests knowledge, and "art" suggests skilled accomplishment—these are the goals, however short of them are their votaries. Skilled research in any science involves art. Nor is the art of fine writing always denied to scientists. Lucretius wrote nobly, however prosaic his verses when contrasted with the songs of Catullus.

What place has biochemistry in the realm of science? The domain of knowledge is divided into many fields, mathematics, physics, chemistry, geology, the biological sciences, and still

others. Their boundaries are ill-defined, and indeed philosophy, as a science, applies itself to all.

Sciences such as those just listed have haloes of age and thus have become classic, privileged. But in the spacious territories between them new sciences have gradually become recognized, whose names suggest their relationships; typical are agricultural chemistry, mathematical physics, biochemistry, biophysics. It is not improbable that future discoveries and developments will lie largely within these newer areas, these in-between sciences. There is an obvious temptation to term them hybrids, but this term is not appropriate; for they have already proved prolific in discovery, while that ancient hybrid the mule is a champion of infertility.

Such fertile crosses must not be confused with those divisions of the more classical sciences which break up their fields into gardens for intensive cultivation. Zoology has been broken up into embryology, protozoology, helminthology, parasitology, and other tiny areas of study. Botany has its algologists, its fungologists, plant ecologists, plant pathologists, geology its mineralogists, its palaeontologists, its geographers. It is often jestingly said of those who delve for truth in such narrow precincts that they know more and more about less and less, so that the perfect specialist is he who knows absolutely everything about absolutely nothing.

The student of an in-between science, on the contrary, widens his horizon. He must master his special science, but to do this he must acquire much knowledge of the fundamental sciences upon which it is based. As knowledge widens generalizations become more possible and great truths are based on generalizations.

Biochemistry applies chemistry (including physical chemistry, and mathematical physics as applied to chemistry) to all the biological sciences, the sciences concerned with life and death and the dead matter which results from death. The biochemist is peculiarly fortunate in the large demands upon him, for he must learn as much as possible of chemistry and physical chemistry and of at least some of the biological

sciences. And he will never cease from having to learn widely. In biochemistry opportunities for generalization should be many.

Some sciences are termed exact. Which are exact and which are inexact sciences, and, for this present theme, what degree of exactitude can be ascribed to biochemistry? There would appear to be a gradient in exactitude, depending upon the extent to which a science departs from the abstract.

A sufficient antiquity suggests an impeccable respectability tinged with authority. Let us therefore quote Plato, who wrote in his *Respublica* concerning degrees of abstraction: "The study of the unit will . . . lead us to the contemplation of real existence . . . and all numbers . . . These numbers are only capable of being conceived in thought. . . . In the second place, let us enquire whether we ought to concern ourselves about the science which borders on arithmetic—geometry. . . . After considering plane surfaces . . . the correct way is to proceed from two dimensions to three; which brings us to cubical dimensions. . . . Let us assign the fourth place in our studies to astromomy . . . which implies motion of solid bodies. . . ."

Slight remembrance of formal philosophy which lingers from undergraduate study suggests that the teaching of today is after this fashion. Mathematics, alone of all sciences, attains the ideal of infallibility. The physical sciences have to do with the external world; their study of matter and energy involves measurement, and measurement involves error. Physics is the least inexact of those sciences which fall short of perfection. Chemistry studies changes in matter, and reactions between different forms of matter; these involve a further variable and fresh chance of error. The biological sciences involve the study of living material, still less under rigid experimental control; they are thus potentially still less accurate.

In-between sciences tend to the exactitude of the most accurate science with which they are associated. Mathematical physics approaches the accuracy of mathematics, physical chemistry of physics. Biochemistry at least approximates to

the accuracy of chemistry; when mathematical-physical-chemistry can be applied to its problems the results are to that extent still more accurate.

The ordinary chemical and physical procedures employed in biochemical work, including analyses made in the course of study of diseased conditions in man, involve potential errors of less than one part in fifty, and frequently less than one part in one hundred. Often micro-chemical procedures are necessary, to measure for example some constituent in one cubic centimetre of blood, present there perhaps to the extent of only one-tenth of a milligram. A potential error of two per cent. is thus not surprising.

Atwater's metabolic studies give some idea of the accuracy that can be attained in the most complex type of biochemical measurement, the estimation of the total energy exchanges of the human body. The heat produced by a man confined in a closed chamber was transferred to water flowing through the walls of that chamber; the slight rise of temperature so produced in this circulating water was measured electrically, giving a direct measurement of heat production. Work done by such a man was measured by accurate electrical contrivances and calculated in terms of heat. Such direct measurements were contrasted with indirect computations of the heat produced, from knowledge of the amount of food eaten and its chemical composition, and analyses of the excreta. In twelve experiments with resting men, each lasting several days, and in twenty similar experiments, in each of which, in addition, the subject performed a measured amount of work, the average difference between calculation and direct measurement was less than one part in ten thousand. However, since complex biochemical experiments of this kind employ the most accurate mathematical, physical, and chemical procedures, and since man is, to the biochemist, only a physico-chemical complex, such a degree of accuracy as that attained by Atwater is also not surprising.

There is an essential difference between the point of view of the biochemist and the research worker in any of the

biological sciences—botany, zoology, physiology, pathology—which intrinsically tends to make the work of the former more fundamental. The biologist thinks essentially in terms of the cell or of some part of the cell which he can at least visualize under the microscope. His study of structure is based upon what he can thus visualize, his study of function upon the cell unit and demonstrably visible changes in that unit. His imagination tends to be limited by what he can see. The biochemist thinks as a chemist in terms of atoms and molecules and molecular structure, and of function in terms of chemical reactions and of physical chemical changes. To associate contraction of muscle with change of shape and volume of muscle cells is some advance, but to associate this process specifically with the breaking down of a chemical substance we call potassium creatine phosphate takes us several steps further towards an explanation of how muscle contracts.

The biochemist thinks in terms of molecules, atoms, ions, and electrons. But he stops there. Although he fully appreciates the development of modern physics which suggests that matter is merely a form of energy, that matter and energy are one and indivisible, he finds as yet no need to utilize this conception. He is concerned essentially with the material world, and it is immaterial to him whether the millions of atoms which constitute a living organism are intrinsically matter or energy. They are sufficiently static during the lifetime and death of that organism to function as matter in the older sense of that term.

The vast difference in magnitude of the units in terms of which biologists and chemists (including biochemists) think is exemplified by a comparison of the relative weights of the red cell of human blood and the compound haemoglobin which is its chief component and gives it its characteristic colour. Thirty-four per cent. by weight of the average red cell consists of haemoglobin. Using average figures, one cubic millimetre of normal human blood contains five million red cells, yet it can be shown that each one of these five millions cells itself contains three hundred million molecules of haemoglobin.

And the molecule of haemoglobin ranks as a fairly large molecule, being more than thirty thousand times as heavy as a molecule of gaseous hydrogen, and nearly nineteen hundred times as heavy as a molecule of liquid water. Such computations permit a further conclusion. Each tiny red cell of the blood can contain ten thousand molecules of a protein compound as large as haemoglobin, and yet these will only amount to just over one thousandth of one per cent. of the weight of the cell, an amount quite undetectable by chemical means. The many "anti-bodies" in the tissues of man, which confer on us immunity from numerous diseases, are present in such tiny traces.

Among the gifts to progress in biological research resulting from application of chemical methods of thought has been realization of the importance of studying pure chemical compounds rather than the crude mixtures of compounds which make up extracts of plant and animal tissues. There has resulted an increasing effort to isolate those compounds in tissue extracts which are endowed with physiological and pharmacological properties, to ascertain their precise chemical nature, and, when possible, to build them up synthetically in the laboratory.

As a result of this need for chemically pure compounds skilled organic chemists are increasingly being impressed into the service of biochemistry. To some of the most brilliant, Butenandt, Hans Fischer, Ruzicka, Wieland, Windaus, and others, we owe much that is making present biochemical progress so rapid. More and more, also, the skilled organic chemist is providing the pharmacologist with pure synthetic drugs of great power in the combating of disease; these are steadily replacing the mixtures which date back to the herbal remedies of our distant ancestresses.

One outcome of the general trend of modern scientific progress is the steady breaking down of the barriers between the different so-called medical sciences. Many physiologists are biochemists in outlook and in everything but name. Biochemists employ physiological and pharmacological technique

as a matter of course. Pharmacology and therapy go hand in hand. And it may be said that biochemistry has become a discipline, a habit of thought. The biologist, thinking biochemically, becomes a biochemist as far as the handicap of lack of long training in the rigorous exactitude of chemical technique will permit him. All this is for good.

Another outcome, not quite so satisfactory, is the increasing costliness of modern medical research, the necessity for teams of trained scientists, highly paid, and the consequent limitation of much of such research to a few of the larger universities and wealthier research institutes, and to the larger pharmaceutical houses, which alone have sufficient money. All credit is due to the latter for their realization of the importance of this type of work, and for their continued generous co-operation with university scientists through provision of unlimited amounts of new products to be tested in every conceivable way before they are placed on the market for clinical use. Yet in the long run the public must pay for all this generosity, and the price it pays is probably greater than if this work, so essential for medical science and public welfare, were stimulated, controlled, and paid for by far-seeing governmental agencies in a Utopian state. The wholesale drug-houses are, naturally, in business primarily for their own good. The public profits from their elaborate researches, but pays well for its better health.

Let us pass in brief review some achievements associated with biochemical research, remembering always that in many of these scientists distinguished in other fields have had an important share, and remembering also that almost every scientific discovery is no sudden and fortuitous happening, but has a long and logical history tending inevitably towards its disclosure, and in which gifted and humbler workers have alike shared.

Knowledge of ferment action goes back to the undated past when some fortunate man first observed by what natural change fruit juices developed an additional and pleasant power. By contrast, Noah's indiscretion is relatively late in history.

But the intricate chemical changes which occur during the alcoholic fermentation of sugar are even today incompletely understood, though we know they involve action by many ferments. During the past hundred years much has been learned about the ferments or enzymes. We know that they control and bring about most of the varied chemical changes in all the cells of every living animal and plant. It has been whimsically said that "life is just one enzyme action after another." Yet in spite of their ubiquity and power their existence was a matter of belief until a dozen years ago. What they could do was known, and material rich in them had been prepared. But properties could only be ascribed to them by indirect reasoning. They had never been isolated. They seemed nebulous, unreal.

In 1926 J. B. Sumner of Cornell University succeeded in preparing crystals of the enzyme urease from jack-bean meal. He repeatedly recrystallized these, and amply demonstrated their enzymic nature and purity. Yet the imponderable reputation of enzymes was such that several years elapsed before his work was generally accepted as accurate.

The power inherent in an enzyme cannot be measured until the pure enzyme can be tested. That residing in the urease molecule is so great that when crystalline urease is allowed to act upon a solution of urea at ordinary indoor temperatures, it produces one hundred and twenty times its own weight of ammonia from the urea every five minutes and will continue to do so almost interminably. Thus in twenty-four hours one gram (just more than one-thirtieth of an ounce) will produce from urea over sixteen hundred cubic feet of gaseous ammonia, weighing some seventy-six pounds, while practically all the urease will still be intact.

Since Sumner's important work Northrop and others obtained three of the chief enzymes of our digestive juices in pure crystal form, pepsin and trypsin which digest meat and other proteins, and an amylase which splits up starch to a sugar. Like claims have been made for one or two other enzymes. Though these are only some half dozen out of the thousands which regulate

our lives, yet their complete and satisfactory isolation has conferred reality upon the rest.

Enzymes are already harnessed to many commercial tasks. Let us take a single look forward towards possible future usefulness. Life and light are paradoxically opposed and inseparable. For light, ordinary light, is a form of energy thrown out from matter in extreme heat, far beyond limits compatible with life, but light from such hot matter is needed to stimulate green leaves to change carbon dioxide of the air to sugars and starches, and, with nitrite from the soil, to proteins, so that plants may continue to live, and animals, parasitic to plants, also can live. Yet we know light without extreme heat, the cold light of the firefly and the glow worm, the feeble guiding star of sex produced in them by some involved enzymic change whose nature is still only partly revealed to us. Perhaps mastery of this secret at some future time will furnish man with soft cold radiance at most trifling cost.

Most people, nowadays, take an intelligent interest in the food they eat; many are diet-conscious. Endless advertisements have made them almost superconscious about vitamins, those last discovered essentials of a correct diet. When our grandparents were children appetizing quality and a sufficiency were the criteria of a good diet. Rickets, product of sunless slums and wrong diet, was common. A curious nerve disease called beri-beri flourished among the poor of the Far East, habituated to live on polished rice and very little else. Scurvy, dread of the sailor of the Middle Ages, was still the dread of Arctic explorers. The causes of such diseases were not known. Scientists who studied diet in the nineteenth century stressed four essentials, proteins (as in lean meat), fats, carbohydrates (sugars and starches), and salt.

Early in this century other needs were recognized. Through the work of Eijkman in Java, of Gowland Hopkins in Cambridge, of Lafayette Mendel at Yale, and of many others the idea of "accessory food factors" developed, compounds present in food in mere traces, but traces essential for health and growth. Presently the existence of several of these "vitamins"

was admitted, but, like the enzymes, they seemed a little unreal and fantastic. They were known to be present in certain materials, and diseases were known to result from deficiency of some one or other of them, but they were still only matter of belief and of indirect demonstration.

Concentrated efforts by many biochemists have given us a number of pure vitamins. Some have been built up in the laboratory and can be purchased in crystal form. It is known that we transform in our livers the red-coloured material of carrots and other vegetables, carotene, into a yellow oil which is vitamin A, and that this vitamin in some ways helps the function of certain glandular cells associated with such secretions as tears. In the absence of this vitamin these specialized cells harden, "keratinize," and secretion ceases, opening the way to bacterial attack. The eye-disease "xerophthalmia" and other afflictions can develop.

It is known that rickets is due to a deficiency of vitamin D, and a crystalline substance "calciferol" has been prepared which has the properties of vitamin D and can heal rickets. The beneficent and ill-tasting cod liver oil of our youth can be replaced by carotene and calciferol—though at greater cost.

It is known that scurvy is due to lack of vitamin C; citrus fruits are rich in this vitamin. Captain Cook unconsciously used this fact; his sailors' daily lime juice ration banished scurvy from a two years' voyage round the world one hundred and sixty years ago. The Hungarian biochemist Szent-Györgyi has lately prepared pure crystals of vitamin C and has named it ascorbic acid—the anti-scorbutic acid. It has proved to be a most potent agent for many essential reactions proceeding constantly in important glands within us.

Much vitamin research has still to be accomplished. The total number of these compounds is still not known. Twenty years ago we thought there were three, ten years ago, four or five; today we admit there may be a dozen, perhaps more.

It has been shown that when rats are continually fed from birth diets as near perfection as possible, they grow larger than their ancestors. Today, when the first generation of scientific

cally-fed youth is reaching man- and woman-hood, increased height and better health pay tribute to the paediatricians' application of biochemical knowledge to the dietaries of infancy and childhood.

Childhood has a fairyland filled with princes and princesses and giants and gnomes, and many other unrealities which vanish with childhood. Yet giants and dwarfs with gnome-like faces, and little strong men and fairies do exist, along with Pickwick's fat boy, bearded women, and other strange people. A new science, endocrinology, concerns itself with them. It studies the nature and actions of certain chemical compounds—hormones—which are secreted directly into the blood from certain very important glands. Endocrinology is a marvellous example of scientific co-operation; to its advances contribute the physiologist, the pathologist, the surgeon and the physician, the pharmacologist, the anatomist, the biochemist and the organic chemist. It is difficult to allot credit between these groups united in ardent competition, and to claim endocrinological discoveries as purely physiological or purely surgical or purely biochemical. No list of biochemical achievements would be complete without some mention of endocrine work, though but little endocrine work can be termed purely biochemical. This being remembered, let us review some facts of endocrinology.

At the base of the brain, cradled and protected in a niche of the sphenoid bone, lies a little gland called the pituitary, so-called because ancient physicians believed that it purified the brain by draining from it "pituita", phlegm, to the nose. This gland prepares some eight or ten protein compounds which exercise most compelling power over almost all the body functions. One is the "growth hormone". When the pituitary of a child produces too much of this compound he becomes gigantic, not to the fairy-book size, but to an uncomfortable eight feet or so, sufficiently impressive. When too little of the compound is produced the child remains dwarfed. Preparations rich in this hormone have been made from the glands of animals, and when these are injected every

day for many weeks and months into rats and dogs, giant rats and gigantic dogs result. When these preparations are injected into the little pituitary dwarfs they begin to grow again, but so far no definite curative treatment has been found for giant growth.

Another of the hormones of the pituitary helps to oxidize fats in the body, and so to prevent us from getting fat. Deficiency of this one leads to no mere obesity but to an inordinate fatness.

There is, in the neck, a little gland placed on both sides of the trachea, with an isthmus of tissue joining its lobes. This is the thyroid, and its special duty is the elaboration of a compound very rich in iodine. This compound is passed to all the cells of the body and is powerful in controlling processes which produce much of the body's heat. When the gland is stimulated to overproduction the body is literally burned up too rapidly, and a highly nervous thin person suffering from many uncomfortable symptoms is produced, who usually needs the surgeon for restoration. When, on the other hand, the thyroid ceases to perform its duty, a dull lethargic person, highly sensitive to cold, develops. Such a person, after many years' steady decline, has been described as bald, bedridden, and demented. Administration of sheep's thyroid by mouth miraculously restores these people to a normal condition. Young children sometimes suffer from thyroid deficiency from birth or infancy; these "cretins", dwarfed and imbecile, impishly gnome-like in appearance, are still to be seen in certain valleys in Switzerland and elsewhere. Now that the cause of their condition is known, if thyroid can be fed them soon enough in childhood they also can largely be restored to normal bodies and sanity.

In order to elaborate its powerful agent the thyroid must pick up from the blood traces of iodine compounds circulating there only in a concentration of about one part in ten millions. Yet in many large areas, including vast tracts of country in Canada and the United States, the normal diet of the population does not provide even this trace of iodine. Until this was

realized, and the proof forced on the medical world by the pathologist Marine, goitre (swollen neck due to enlarged thyroid) was common. In the past twenty years it has largely disappeared, due in great part to the general use of iodized salt.

Diabetes is one of the oldest known afflictions; proof that it is due to disease of the pancreas dates back only forty years to the experimental surgery of von Mehring and Minkowski. The first alleviation of diabetes by the physiologist Banting's extract of pancreas occurred only sixteen years ago. Five years later "insulin" had been crystallized by the pharmacologist Abel. Today hundreds of thousands of diabetics over the whole world are kept healthy by insulin injections.

Lying close to the thyroid are four tiny glands, the parathyroids, each with a volume scarcely that of a pea. Yet this tiny mass of tissue shares in the control of all the calcium exchanges in the body, and calcium is the body's chief mineral element. Our knowledge of the parathyroid hormone and its action is largely due to Collip, who first prepared it in concentrated form. Too much and too little of it alike lead to disease. Most striking are the sequences when one of the tiny parathyroids becomes tumorous. Its enhanced production of hormone causes such marked denudation of the mineral matter of bone that the bones soften, and bend, and pain, or else the kidneys, overtasked with excretion of extra calcium salts from the denuded bones, fail in their task, and painful kidney stones bring the patient to the surgeon.

Some of the most brilliant achievements of the biochemist and organic chemist within the realm of endocrinology have been concerned with the hormones which govern sex. These have been isolated in pure crystal form, their chemical natures ascertained, and then they have been synthesized in the laboratory. They are all derived from cholesterol, close relative of vitamin D, and present in blood and many tissues, being a compound that has many and varied duties. These sex hormones are also distantly related to other compounds with definite carcinogenic—cancer-inducing—properties, and perhaps

knowledge of this association may yield another clue to the nature and ultimate control of that dreaded disease.

Biochemistry studies both life and death. Life is only a phase of nature. The living borrow dead matter for a time, and, dying, assist its return to more elementary stuff awaiting fresh incorporation into other life. The same cell enzymes which in life build up the complex structures which life needs, when the breath of life passes, when deficient oxygen sours the cells, smash up these complex structures and free their components for fresh service. Plant agencies assist; bacteria, and moulds, share the attack on the decomposing carcass of what once was a living animal. The soil regains its own.

Some parts of the body seem more resistant, the chitinous coverings of crustacea, the keratinized protein of hair and wool and fur. But what life can form other life can resolve. The moth specializes on keratin, a marine bacterium dissolves chitin, certain beetles and mussels digest wood. The lime salts of bone and shells persist, but are simple compounds and need no resolution.

Man—some proportion of men—rebels at this cycle from earth to life and back to earth again. Obsessed with hope that individual human existences are imperishable, sects of men from time immemorial have endeavoured to preserve their bodies till endless time, and the arts of ancient Egyptian mummifiers have been replaced by the subtle and not less expensive devices of modern morticians; we are storing beds of mummies for the fortieth century, in vain hope that our descendants will reverence them more than we do old Egypt. The rites of Parsees, horrible though they seem, yet accord more closely with nature, and urn-burial is more useful to future generations and of greater dignity.

This century has seen mechanical conquest of the air, perfect reproduction of form and colour and voice in Movie-land, and such complete mastery of radio that one has been awakened in Winnipeg at four in the morning by the shouts of throngs in the streets of London acclaiming their King. Biochemistry

has achieved comparable triumphs, in a minuter field. We have gone far, but there is still much further to go. This science also has its rôle in the solution of the jigsaw puzzle of existence. But that solution will need a long, long time.

THE PHYSIOLOGY OF TAPEWORMS

R. A. WARDLE

TAPEWORMS have a simplicity of structure which makes them ideal subjects for the investigation of certain fundamental problems of physiology. Unfortunately they cannot be studied directly in their normal environment, and when removed from this environment into laboratory media they degenerate rapidly and die usually within a few hours. Our knowledge of tapeworm physiology is consequently fragmentary and much of it is guesswork. The literature on the subject is scattered over a wide range of medical, veterinary and zoological publications, many of which are difficult of access, and it has not been made available in summarized form. No apology is necessary therefore for the following résumé of the problems and achieved results in this restricted field of biology.

I. THE EXTERNAL ENVIRONMENT

After a tapeworm leaves the egg it passes during its life-cycle through three phases termed the *onchosphere*, *metacestode*, and *strobila*.

The *onchosphere*—called by some authors the *hexacanth embryo*—is characterized always by three pairs of peculiar hooks or hooked spines, and by the lack of defined internal structures. It is present, with scarcely any structural variation, in the life-cycle of all tapeworms which have been fully studied, and it provides the strongest argument for the evolutionary origin of the very diverse modern types of tapeworms from a common ancestral stock. Since, however, it is unknown outside tapeworms it gives no clue as to what this ancestral stock may have been.

The earliest environment of the *onchosphere* is the enclosure provided by two membranous coverings; the innermost of these is a simple epithelium which may be referred to as the

embryophore; the outermost is a non-cellular, chitinous layer which is a hardened exudate from the shell glands of the parent tapeworm; it may be termed the *chorion* or shell proper.

The investigations of Schauinsland (1886), confirmed by later investigators of whom the most recent is Vergeer (1935), into the embryology of the Broad Tapeworm *Diphyllobothrium latum*, suggest that the embryophore is really the embryonic ectoderm, that embryonic layer which, in all multicellular animals whose development is known, gives rise to the skin, skin structures and nervous system of the adult. Since this embryophore is always discarded during onchosphere development, there emerges the remarkable conclusion that the tapeworm—unique among animals—has no organs derived from the embryonic ectoderm. Its body surface can only be derived from the other embryonic layer, the endoderm, which in other animals is the parent tissue of the adult alimentary system. That is to say, the tapeworm lacks an alimentary system because the embryonic material which should go to the formation of such a system has to serve as a body covering. But the adult tapeworm has an elaborate nervous system and no case is known of the nervous system of any animal originating otherwise than from embryonic ectoderm. It is possible that the application of modern microtechnical methods to the study of tapeworm embryology might throw light upon this problem. Nevertheless it is tempting to assume that the adult tapeworm is essentially an endodermal sac whose lumen has been invaded and obliterated by mesodermal tissue, since such gut-lumen obliteration has occurred among certain rhabdocoelid flatworms and on other grounds an origin of tapeworms from rhabdocoelid flatworms can be argued.

The escape of the onchosphere from its membranes can take place only in the gut of an appropriate host animal termed the *intermediate host*, under the influence of tryptic digestion following weakening of the chitinous shell by gut HCl. There may be some correlation between shell thickness and host digestive power so that in the wrong type of host the onchosphere is not liberated or is digested completely.

In the onchospheres of pseudophyllidean and tetraphyllidean tapeworms the embryophore may develop a coating of cilia. The ciliated onchosphere escapes through a lid-like opening of the chorion when the egg is in contact with moisture and may live as a free-swimming organism for several hours before being swallowed by the intermediate host. Whether this so-called *coracidium* type of onchosphere is an interpolation into the original life-cycle or an ancestral stage which other tapeworms have lost, cannot be decided on present knowledge.

Within the intermediate host, the onchosphere migrates from the gut through the gut wall to the nearest lymphatic or serous space. In an insect or a crustacean, this migration brings it into the haemocoel, a hypertrophied blood space, where development into the next phase proceeds uneventfully. In a vertebrate animal, however, the migration brings the onchosphere into a capillary blood vessel or a lymphatic vessel in the gut wall. In this case it is carried passively, by the portal circulation, to the liver and impacted there, or is carried by the lymphatic circulation to the caval venous system. From this it is eventually carried by embolism to the lungs, brain or muscles and impacted there. Peculiar is the onchosphere of pseudophyllidean and possibly tetraphyllidean tapeworms in that there is an early stage of its career—known as the *proceroid*—spent within the body cavity of a crustacean before the true intermediate host is entered. The great number of cases in which the late onchosphere and the early metacystode environment is an insectan or a crustacean haemocoel, together with the deliberate migration made by many onchospheres, after impaction in the liver of a vertebrate, to reach the peritoneal cavity of the host, and the phenomenon of such impacted onchospheres as cannot thus migrate creating their own serous environment within a reaction membrane formed by the host tissues, all suggest that tapeworms were originally parasites in serous or lymph spaces and that their adaptation to a life in the alimentary canal of a vertebrate animal came much later in their evolutionary history.

A high rate of mortality occurs among onchospheres before

they leave the membranes. Less than 75 per cent. of the eggs of *Diphylobothrium latum* from human hosts and less than one per cent. of eggs of the same tapeworm from canine hosts liberate onchospheres (Essex and Magrath, 1931). The viability of eggs of *Hymenolepis fraterna* laid in the rat declines from a maximum at the time of passage from the rat until completely lost by the eleventh day after leaving the rat (Shorb, 1933). A high rate of mortality occurs also among onchospheres after they reach the intermediate host. Bullock and Curtis (1924), studying the development of onchospheres of the cat tapeworm (*Taenia taeniaeformis*) in the livers of rats, find that a large proportion of the impacted onchospheres die early and are replaced by scar tissue. That they are killed by a host reaction is suggested by the investigations of Miller (1930-34) who has shown that rats can be immunized against infestation with these onchospheres by inoculation with material from the adult tapeworm or with serum from a rat already infested. Such immunization however does not prevent onchospheres already firmly established in the liver from developing further. Immunity of the rat to re-infestation will last 167 days and the offspring of an immunized or a naturally infested female rat will show an immunity for a few weeks after birth. Similar immunization can be provoked by inoculation with material of *Taenia pisiformis*, a dog tapeworm, so that the antigen-antibody mechanism is probably a group reaction, called forth against any species of *Taenia* but not against other tapeworm genera.

It is unfortunate that the physiology of the onchosphere phase has been studied so slightly since it is possible that an investigation of its problems would be the most fruitful line of attack upon those outstanding problems of tapeworm biology, the evolutionary origin, and the nature of host specificity.

The *metacestode phase* begins with the shedding of the onchospheric hooks and ends with the appearance of metamERICALLY arranged reproductive organs. Since it is derived directly from the onchosphere by tissue differentiation, the

solid type of metacestode—whether *plerocercus* or *plerocercoid*—should be more primitive than the vesicular or bladderworm type of metacestode, whether *cysticercus*, *coenurus* or *echinococcus*. This is to some extent supported by the almost universal occurrence of the solid type among the undoubtedly primitive, tetraphyllidean, tapeworms. One may suggest that the vesicular types have evolved from solid types which, habitually marooned by narrowing calibre of blood vessels in non-serous host locations, provided their developing scolices with a serous environment formed by replacing the internal tissue by a transudate from the host blood.

An apparent choice of position within the host is shown by metacestodes. In Manitoba, 80 per cent. of the plerocercoids of the pike tapeworm (*Triaenophorus*) occur in the anterior epiaxonic muscles of the whitefish or cisco—the only intermediate hosts—, 10 per cent. occur in the posterior epiaxonic muscles and the remaining 10 per cent. in the hypaxonic muscles (Newton, 1932). Of plerocercoids of *Diphyllbothrium latum* occurring in the pike, 70-90 per cent. live on the surface of the peritoneum, the remainder within the muscles. In the case of *Cysticercus bovis*, the metacestode of the human tapeworm *Taeniarhynchus saginata* in cattle, Cousi (1933) among 621 animals found 84.37 per cent. with heart muscle infestation, 51 per cent. with masseter muscle infestation, only 42.19 per cent. with tongue muscle infestation. Bullock and Curtis (1924) among several thousand metacestodes of *Taenia taeniaeformis* occurring in rats found only one not located in the liver. Presumably the liver merely acts as a sort of filter for onchospheres travelling in the portal circulation, since they will develop equally well in the subcutaneous tissue, when transplanted there. A similar mechanical explanation may account for the predominance of the bladder-like metacestode of the dog tapeworm, *Echinococcus granulosus*, in the lungs of moose and sheep but in the liver of man, and for the predominance of metacestodes of the human tapeworm, *Taenia solium*, in the tongue of hogs but in the eye and nervous system of man. Brumpt (1934) discussing the gradation of preferred

locations of the metacestode of *Taenia solium* when using man as an intermediate host, namely, the eye (46 per cent.) nervous system (40 per cent.), skin (6.32 per cent.), muscles (3.47 per cent.), other organs (3.22 per cent.), as determined by Vosgien (1911), suggests that this apparent choice of location is due not to the accident of narrowing blood vessels, but to a definite tropic response on the part of the onchosphere. Solomon (1936) has described definite migrations of the metacestode of the dog tapeworm, *Taenia pisiformis*, from the liver of rabbits to the peritoneal cavity; Bacigulpo (1933) has observed similar wanderings by the metacestode of *Echinococcus granulosus* even after the scolex had formed, although Coutelen (1936) was unable to confirm this. In the case of the metacestode of *Taenia solium*, it seems difficult, if a mechanical explanation is excluded, to account for the definite range of preferred locations within the human eye, namely, in order of occurrence, retina, lens, conjunctiva, anterior chamber, orbit, and only occasionally pupil and iris, and to explain why in the human brain seven times as many metacestodes should be found in the brain tissue and meninges as in the brain ventricles.

Metacestode migration is eventually checked by the deposition around the parasite of a zone of fibrosis—the adventitious membrane—left as an inflammatory exudate by the irritated host tissue. The formation of this exudate has been described by Bullock and Curtis (1924) for the metacestode of *Taenia taeniaeformis*, and by Solomon (1934) for the metacestode of *Taenia pisiformis*. The inflammation is commonly preceded by a mobilization of eosinophiles and after the inflammation subsides an area of infiltrated "small round cells" is left between the zone of fibrosis and the healthy cells of the surrounding host tissue. The gradual thickening and contraction of the fibrosed layer deprives the parasite of nutriment and it dies. Permeated by a fluid exudate from the blood, it swells to several times its original volume, becomes gelatinous, is then destroyed by phagocytosis or replaced by calcium carbonate and calcium phosphate. There is thus the common

pathological picture of an inflammatory reaction accompanied by cell proliferation and followed by fibrosis. Worthy of further investigation, however, are the absence of such fibrosis around the metacestodes of some tapeworms, notably of *Diphyllobothrium latum*, and the stages in the process of calcification.

A possible explanation of the difference of degree of inflammatory reaction evoked by different metacestode species, may lie in the nature of the internal proteins of the tapeworm. That such proteins can be intensely irritant to the host has been shown in several cases, notably in the case of the hydatid cyst of man—the metacestode of the dog tapeworm, *Echinococcus granulosus*—whose rupture commonly provokes anaphylactic shock in the host. In at least 70 per cent. of human cases of hydatidosis, intradermal inoculation of hydatid fluid will provoke a violent dermal reaction, the basis of the Casoni test for hydatidosis (*vide* Kellaway and Fairley, 1932). That the host becomes immunized to the irritant action of hydatid proteins is suggested by the failure of such tests in cases of long standing infestation, or cases where previous surgical operation has permitted slight leakage of hydatid fluid into the host tissues; or in the case of ruminant hosts, which presumably are hosts of longer evolutionary standing. That in such cases there is an antigen-antibody mechanism is demonstrated by the occurrence of precipitins in the blood sera of animals harbouring vesicular metacestodes (*vide* Trawinski, 1936) and by the response of 90 per cent. of human cases of recurrent or residual hydatidosis to a complement fixation test similar in principle to the Wasserman test for syphilis.

Owing to early fibrotic isolation of the metacestode, injury to the host is usually functional rather than pathological and occurs chiefly through the mechanical pressure of the growing metacestode—as in the case of hydatid injury—or of the degenerating metacestode—as in the case of human epilepsy induced by cysticercosis—upon the surrounding tissue. The possibility of metacestode irritation being sufficiently intense, in spite of fibrotic isolation, to induce malignancy is illustrated

by the common occurrence of cancer of the liver in rats infested by the metacestodes of *Taenia taeniaeformis*. According to Bullock and Curtis (1924) among 26,172 experimentally treated albino rats of which 13,120 had survived the eight months' minimum period before malignancy is evident, 3,285 developed hepatic cancer. Usually only one cyst in the liver becomes malignant, the rest remaining benign. Cysts from hosts with a single cyst showed a higher proportion of malignancy than cysts from hosts with five or more cysts. The tumours arise in the adventitious layer, nearest to the liver, and are mostly spindle-celled or polymorphous-celled sarcomata and according to Mendelsohn (1934) originate from normal cells resident in the adventitious layer that differ from normal fibroblasts. The stimulus of malignancy does not come from a dying or dead parasite since nearly all malignant cysts contain a healthy metacestode from 12-24 cm. in length. It may be noted too that tumours arise only after infestation of relatively long standing, usually between 248-676 days after initial infection, nearly 80 per cent. occurring between the 11th and 17th month after initial infection; 78 per cent. of the cancerous rats are 13-19 months old. Between the earliest appearance of the tumour and the death of the rat a period of 24 days elapses.

The term *strobilar phase* may be applied to the worm-like sexual phase of a tapeworm that is characterized by an everted *scolex* or holdfast organ, and by having the reproductive organs multiplied and arranged in metameric succession. External segmentation may or may not be present—it is not an invariable characteristic of tapeworms—and even when present does not necessarily correspond to the sets of genitalia.

With a few exceptions, notably the genera *Stilesia* and *Thysanosoma* in the bile ducts of the sheep, the environment of the strobilar phase is the small intestine of a vertebrate animal, and usually the middle third of the small intestine, its exact position being determined by the degree of saline and glucose concentration optimum to it. That it is influenced by enzyme concentration seems doubtful. Enzyme concentra-

tion in the small intestine is low; the strobila is adequately protected by the layer of excreted fatty acids on the body surface and by its chitinoïd cuticle. Even during the transition of the metacestode from the intermediate to the definitive host, when it runs the gauntlet of gastric and duodenal enzyme attack, the scolex and growth zone are adequately protected by their invagination into the metacestode body, and when the scolex and growth zone evert, under the influence of bile salts in the duodenum, protection from tryptic digestion is ensured by the cuticle (De Waele, 1933, 1934). A slight antipeptic activity, but no anti-tryptic activity, is shown by aqueous, saline and alcoholic extracts of fresh tapeworm tissue, and by fractional alcoholic precipitates of saline extracts of fresh and dried strobilar material, but the influence of fatty acids in the extracts cannot be altogether discounted.

In a series of observations made by the author on the position of *Diphyllbothrium latum* and *Taenia hydatigena* co-occurring in dogs, where the mean intestine-length of the dogs, between pylorus and sacculus, was 360 cm., the diphyllbothriids lay between 308-318 cm. from the pylorus, the immature taeniids between 258-308 cm., the mature taeniids between 308-319 cm.

The number of strobilae occurring in a single host-individual varies with strobilar size. Small tapeworms such as *Echinococcus* and *Dipylidium*, in a dog, may number several thousands. The maximum number of individuals of *Diphyllbothrium latum* that the author could rear in a dog was 27, with a total strobilar length of 14 metres. Petruschewsky and Tarassow (1933), investigating the numbers of *Diphyllbothrium latum* in human hosts in the Karelia-Murmansk-Leningrad districts of Soviet Russia, found among 307 cases that 42 per cent. had only one worm, 22 per cent. had two, 13 per cent. had three, the rest had more than three and less than fourteen. The maximum strobilar length in any one case was 90 metres. Tarassow (1934), however, records a unique case of a 23-year-old male with 143 examples of *Diphyllbothrium latum* measuring *in toto* 117 metres. In western Canada the usual number in any human case is one or two.

The occurrence of *premunitio*, i.e., the prevention of infestation by an immunity developed through previous infestation, has been suggested by several observers. Turner, Berberian and Dennis (1933) claim to have induced a marked resistance in dogs to infestation with *Echinococcus granulosus* by intramuscular injection of dried, powdered hydatid scolices; Ohira (1935) has partly immunized kittens against *Taenia taeniaeformis*, and puppies against *Diphyllbothrium latum* by subcutaneous injection, or by feeding, of an emulsion of the metacystode phase of the tapeworm. On the other hand, in the author's experience, some dogs though never previously infested may show a natural resistance to *Diphyllbothrium latum* and may readily lose the worms soon after infection.

The most important problem which faces the strobila in its intestinal location, a problem which is the main factor in determining the numerical value of infestation, is that of maintaining its position against the disruptive and expulsive tendency of the peristaltic writhings of the host gut. Anchorage by the scolex armature may hold a small tapeworm such as *Hymenolepis* or *Echinococcus* in its chosen position. But when the strobila is a metre or more in length such anchorage can only be incidental, and maintenance of station must be effected by muscular tonus. The scolex is necessary to anchor the small and early strobila before the musculature is fully developed, but in older and longer strobilae it serves little purpose and never increases beyond its metacystode dimensions. The largest tapeworms—the diphyllbothriid and anoplocephalid tapeworms—have weak scolices unprovided with hooks.

The waves of contraction of the longitudinal musculature, which originate in the posterior region of the scolex, are relatively slow and short, oscillate around a value between 2-4 contractions per second, and fade in intensity beyond the anterior third of the strobila. The strobila musculature is consequently in a state of tonus, of partial contraction, which serves to hold it closely against the gut mucosa and to maintain the integrity of its interproglottid junctions against the backward drag and disruptive tendency of the gut movements.

As the strobila increases in length and breadth, in order to attain the maximum efficiency of food absorption demanded by the reproductive system, the weaker tonus of the posterior region brings about the phenomenon of *apolysis*, the shedding of strips of strobila. Even diphyllbothriid tapeworms, in which muscularity is pronounced and apolysis lacking, may show pseudo-apolysis in that sexually-exhausted strips of strobila are shed. The occurrence of apolysis—in the form of *hyperapolysis* in which immature proglottids are shed—in the primitive tetraphyllidean tapeworms suggests that it is a primitive and ancestral tapeworm character. It is possibly related to the similar phenomenon of asexual budding and shedding shown by some rhabdocoel flatworms. It has been retained by the otherwise specialized cyclophyllidean tapeworms in the modified form of *euapolysis*, in which only the gravid proglottids break away, but it has been secondarily lost by pseudophyllidean tapeworms which may represent neotenic plerocercoids with an exaggerated muscular development.

No correlation between size and longevity has been established and most observations on the longevity of the strobilar phase of tapeworms are vitiated by the neglect of the observer to eliminate the possible factor of host re-infestation and to distinguish between the pre-patent and patent periods, that is to say between the preliminary period of growth before egg production begins and the period over which egg production occurs. The shortest recorded strobilar longevity is that of *Ligula intestinalis* in water birds, which according to Joyeux and Baer (1936) lives for only a few days, a brevity of strobilar existence that explains why the strobilar *Ligula* has been found only once in Canada (Wardle, 1933) whereas the plerocercoid is one of the commonest parasites of Canadian freshwater fishes. The longest strobilar longevity known is that of *Diphyllbothrium (Spirometra) mansoni*, recorded by Leiper (1936) as living at least 8 years in a dog. Between these two extremes, a conflicting accumulation of longevity data is available. Broadly speaking, longevity is correlated with apolysis in that annual forms are anapolytic and perennial

forms are apolytic, but among anapolytic forms *Diphylobothrium latum*, prepatent in man or dog for 19 days, is patent for 5 years in man (Leiper, 1936); *Eubothrium oncorhynchi* of the Pacific Salmon probably lives several years in its host; among apolytic forms, *Moniezia expansa*, the sheep tapeworm, is prepatent for 37 days, patent for 65-70 days (Seddon, 1931), or for 54 days (Stoll, 1936); *Hymenolepis fraterna*, of the rat, is prepatent for 11-16 days in rats, 15 or more days in mice, is patent for 11 days, then leaves the host (Shorb, 1933); *Raillietina cesticillus*, of the domesticated fowl, is patent for 16-20 days (Wetzel, 1934).

The potential longevity of a strobila is of some importance since a long-lived form such as *Diphylobothrium latum* has greater pathogenic potentialities than a short-lived form like *Hymenolepis nana*. The influence of a strobilar tapeworm upon its host is usually benign, although medico-veterinary opinion is prone, on insufficient grounds, to ascribe to tapeworm infestation such host phenomena as gastro-intestinal or neuromuscular disturbance, emaciation, loss of body weight, and so forth. There is little evidence to support such assumptions except where superinfestation occurs (Sholl 1934: Stafseth and Thompson, 1932: Wetzel, 1934), and even then no noticeable metabolic disturbance or pathological change may occur. The presence of 3,000-4,000 individuals of *Davainea proglottina* in the intestine of a 12-day-old chick is for example recorded by Taylor (1933) as causing no evident disturbance.

Essex, Markowitz and Mann (1931), however, have found a marked fall in blood pressure to occur in uninfested dogs injected intravenously with dried and powdered *Taenia pisi-formis* material, and not to occur in dogs which had previously been infested with this tapeworm. Koropov (1935), obtained similar results by injecting disintegrating strobilar material of the dog tapeworms *Taenia hydatigena* and *Multiceps multiceps*. He ascribed the effect to stimulation of the vagus nerves by a toxin liberated by the tapeworm material and under ordinary conditions of infestation neutralized by the liver.

There is, too, an extensive literature—summarized by Birkeland

(1932)—concerning the coincidence of *Diphyllbothrium latum* infestation of man with a type of haemolytic anaemia which in occasional cases is sufficiently severe to simulate the picture of pernicious anaemia. The coincidence of infestation with this pseudo pernicious anaemia is not, however, statistically proven, but that a mild haemolytic anaemia can be induced in dogs by infestation with *Diphyllbothrium latum* has been shown by Wardle, Gotschall and Horder (1937).

II. THE INTERNAL ENVIRONMENT

What appears to be the wall of the vesicular type of metacystode is in reality two separated membranes, the outermost of which—the so-called *adventitious* or *pericystic* membrane—is a product of host tissue inflammation. The true wall is then the innermost membrane, the *vesicular* membrane. Between the two membranes there is a small quantity—a few drops usually—of a viscous fluid, the *external fluid*. Within the vesicular membrane there is a relatively larger quantity of a clear, limpid fluid—the *internal fluid* or, to use the expressive term of French physiologists, the *milieu intérieur*. The vesicular membrane is in reality the skin of the metacystode, if such a term can be applied to a structure which is not of ectodermal origin.

In the case of the plerocercoid type of metacystode, the adventitious membrane may not be present. If present it is usually well separated from the metacystode, the external liquid being relatively voluminous, thick and pus-like. In the strobilar phase, no adventitious membrane has been demonstrated.

Microscopical examination shows the vesicular membrane to be really double, with an outer, amorphous, refringent *cuticle* or *laminated membrane*, and an inner syncytial, glycogen-rich, *germinal* or *proliferous* membrane. When the metacystode is placed in water at 36-38°C. it can be seen to undergo rhythmic pulsations, increasing up to a maximum rate at 40-42° and decreasing to a minimum rate at 32-34°C. Such pulsations take place also when the metacystode is *in situ*. The "skin" of the plerocercoid and the strobila, corresponding

to the vesicular membrane, is also essentially double and comprises an outer, non-cellular, laminated cuticle, and an inner, thin, homogeneous basement membrane. The cuticle is an exudate from a layer of spindle-shaped cells—the *subcuticle*—lying below the basement membrane whose exact homology with the vesicular membrane is uncertain. In both the plerocercoid and strobilar phases, the internal liquid or *milieu intérieur* is represented by the “parenchymal sap”, a fluid lying in the interstices of a scleroprotein network termed the parenchyma, in which the remaining internal organs—muscles, nervous system, excretory system, reproductive system—are embedded.

A thorough chemical and physical study of the *milieu intérieur* of a vesicular metacestode has been made by the Swiss physiologist, W. H. Schopfer (1932), using the cherry-sized metacestode (*Cysticercus tenuicollis*) of the dog tapeworm *Taenia hydatigena*, a metacestode fairly common in the abdominal cavity of the sheep. There is also available a number of observations on the internal fluid of “hydatids”, i.e., the metacestode of *Echinococcus granulosus*, made by medical workers chiefly. Reference may be made to the discussion of previous work given by Schopfer.

The internal chemistry of the plerocercoid phase has not been the subject of any systematic study, but that of the strobilar phase has been investigated particularly by v. Brand (1929, 1933) and to a lesser extent by Ortner-Schönbach (1913), Vialli (1923), Smorodinzew (1936), Friedheim and Baer (1933) and Wardle (1937).

The external fluid is essentially an exudate from the host's blood and differs only in detail from blood serum. In *Cysticercus tenuicollis* it is a viscous, reddish fluid with a density of 1.023, refractive index of 1.342 and an internal osmotic pressure equivalent approximately to that of the blood serum, namely, 7.6 atmospheres. It contains approximately 4 per cent. of nitrogenous matter with a trace of cholesterol and somewhat less than 1 per cent. of mineral matter; the nitrogenous content is thus about half that of sheep serum.

The internal liquid of the metacestode is a transudate from

the blood plasma and is comparable with cerebrospinal fluid. It is a clear, limpid fluid with a density of 1.0097, refractive index of 1.335805, osmotic pressure approximately equal to that of blood. On evaporation it yields 1.557 per cent. of solid matter of which 0.3-0.5 per cent. is nitrogenous—chiefly proteins, uric acid, urea, creatinine—, with traces of glucose and cholesterol; the mineral content consists chiefly of chlorides (0.7 per cent.), sulphates and phosphates of sodium, potassium, calcium, magnesium and iron. Noteworthy is the absence from both liquids of fats and fatty acids and glycogen.

The adventitious membrane would appear, therefore, to be almost completely permeable to the constituents of the host serum, and the vesicular membrane only selectively permeable, especially towards serum proteins. The evidence of protein degradation shown by the presence of urea, uric acid and creatinine, suggests a metabolism dependent upon oxygen. If a respiratory exchange of oxygen and carbon dioxide takes place through the vesicular membrane, the importance of the characteristic turgescence of the vesicular metacystode is evident, and the attainment of such turgescence by a difference in electrolyte content between external and internal liquids would account for the differences in saline content.

In the case of the strobilar phase, the scolex contains approximately 50-75 per cent. of water, 18-20 per cent. of organic matter, 7-20 per cent. of mineral salts; the remainder of the strobila contains approximately 80-90 per cent. of water, and the organic matter is equably distributed between nitrogenous, fatty, and carbohydrate matter, with 1-2 per cent. of mineral salts.

In a series of analyses of gravid proglottids of the sheep tapeworm, *Moniezia expansa*, made by the author, the mean water content was 86.6, nitrogenous matter 4.86, carbohydrate 3.14, ether-soluble material 3.8, ash 1.4 per cent., respectively; the proportions varied somewhat between individual worms; they vary somewhat between different species of tapeworms; reference may be made to the analyses of v. Brand (1933) of *Taenia hydatigena*, *Taeniarhynchus saginata*, *Moniezia ex-*

pansa, *Anoplocephala magna* and the analyses of Smorodinzew and Bebeschin (1936) of *Taeniarrhynchus saginata*, *Taenia solium* and *Diphyllbothrium latum*, but all strobilar tapeworms that have been analysed agree in having a high carbohydrate content, and a high ether-soluble content.

The nitrogenous content of the strobila has not been studied in detail. There is reason to believe that it consists chiefly of scleroproteins, making up the parenchymal network. To what extent albumins and globulins occur in the parenchymal sap, and to what extent specific proteins—serving as antigens to provoke antibody formation—occur in it, cannot be stated. It is of some significance, possibly, that products of protein degradation—creatinine, urea, etc.—are absent or indetectable in saline media in which living tapeworms have been immersed.

The carbohydrate content has been better studied, contributions to the subject having been made by Ortnier-Schönbach (1913), v. Brand (1933) and Wardle (1937). It is entirely polysaccharide in nature, no free sugars having been demonstrated in strobilar tissue. Appreciable quantities of a similar polysaccharide have been demonstrated in other gut helminthes, notably in *Fasciola* and *Ascaris*, and in the germinal membrane of vesicular metacestodes.

Among 400 strips of strobila of *Moniezia expansa* analysed by Wardle (1937) the polysaccharide content varied between 1.55 and 3.96 per cent. of the fresh weight, the mean value being 3.22 per cent. This was alcohol fixed material. Among 16 selected worms analysed within one hour after collection, the mean polysaccharide content was 3.14. v. Brand, among *Moniezia* material (30 specimens) collected in Nürnberg, obtained values ranging from 0.99 to 5.35 per cent. with a mean value of 2.69 per cent. of the fresh weight. The polysaccharide content of *Moniezia* is therefore as high as 30-40 per cent. of the dry weight.

It can be isolated as an amorphous white powder which on hydrolysis yielded in the author's experiments 95.27 per cent. of a reducing sugar that was apparently d-glucose; the

tapeworm polysaccharide may be assumed therefore to be chemically identical with mammalian glycogen.

Microscopical examination of sectioned strobilar material, stained with glycogenophilic stains, shows it to be uniformly distributed through the parenchyma, but to be absent from the cuticle, subcuticle, muscles, uterine network and eggs. There is some correlation between the polysaccharide content and the degree of muscular tonus in the strobila.

The fat content of strobilar material has been studied in detail by v. Brand (1933) for *Moniezia expansa*. By Soxhlet extraction a lipid material can be separated which is a mixture of stearin 7 per cent., stearic acid 8 per cent., oleic acid 51 per cent., phosphatides (chiefly lecithin) 15 per cent., higher fatty acids 14 per cent., glycerol 4 per cent. An analysis of *Diphylobothrium latum* by Faust and Tallqvist (1907) showed a lipid content made up of lecithin, cholesterol, palmitic acid, stearic acid, and oleic acid with no free glycerol. Fat-staining methods show the neutral fats to be distributed through the parenchyma but to be absent from the cuticle, subcuticle, muscles, and reproductive system; the scolex is almost fat free; significant is the absence of fat from the longitudinal excretory canals. Its distribution parallels that of the glycogen, and v. Brand's view is that it is a by-product of glycogen degradation and not obtained from the host gut contents. There does not seem, however, to be the gradual increase in lipid content from scolex to oldest proglottid, that v. Brand's view demands, but there may be a differential rate of metabolism between young and old portions of the strobila.

The strobilar ash content has not been analysed, but v. Brand (1933) has analysed the "calcareous bodies" common in the strobilar parenchyma and found them in *Moniezia* to comprise carbonates and phosphates of calcium and magnesium, his figures being CaO 36.13 per cent., MgO 17.07 per cent., P_2O_5 14.09 per cent., and CO_2 33.09 per cent.

Calcium appears to be taken readily by tapeworms from their environment, but there is no evidence that the internal concentration rises much above the external concentration, that

it plays any part in tapeworm metabolism, or that the amount taken from the host is pathogenically significant. Wardle, Gotschall and Horder (1937) failed to obtain any change in the blood calcium and blood phosphorus of dogs infested with *Diphyllobothrium latum* up to periods of three months, although such changes have been shown to occur in rabbits infested with the trematode *Clonorchis sinensis*, by the Japanese workers Hudimi and Nishizaki (1931) and Shigenobu (1932). Wardle (1934) has commented on the susceptibility of some tapeworms when *in vitro* to the lethality of calcium salts even in low concentrations, and the apparent non-susceptibility of others—notably the plerocercoids of *Diphyllobothrium latum* and *Triaenophorus tricuspidatus*—which incidentally are not found calcified in the host tissues. An investigation of the response of tapeworms, whether strobilar or metacestode, to environmental calcium might throw light upon the susceptibility of some metacestodes to calcification when in the host tissues.

III. THE INTERENVIRONMENTAL EXCHANGES

A tapeworm, whatever its phase, has neither apertures for food intake nor for elimination of waste; the substances it utilizes for energy production must pass equally with the by-products of such energy production, through the skin. It should therefore be poikiloi-osmotic, having an osmotic pressure fluctuating with that outside.

Vialli (1923) using thermo-electric methods, determined the internal osmotic pressures of *Taenia pisiformis* and *Taenia hydatigena* of the dog as approximately 13 and 10.6 atmospheres respectively, as compared with 7.5 for the dog gut-contents. Schopfer (1932) using cryoscopic methods found as the mean of 10 determinations, an internal osmotic pressure in *Moniezia expansa* of approximately 8 atmospheres and for the sheep gut-contents an osmotic pressure of nearly 10 atmospheres; for *Eubothrium crassum* of trout, the osmotic pressure was approximately 12 atmospheres, nearly twice that of the host.

In the case of the plerocercoid phase of *Diphyllbothrium latum*, Wardle (1932), from observation of plerocercoid behaviour in solutions of known osmotic pressure, suggested an internal osmotic pressure of 3-4 atmospheres, lower than that of the surrounding muscle juice of the pike (approximately 6 atmospheres). Schopfer (1932) for *Cysticercus tenuicollis* suggested an internal osmotic pressure of approximately 8 atmospheres, only slightly above that of sheep serum.

Admittedly tapeworms readily lose or gain water when the saline concentration of the surrounding environment is varied (Schopfer, 1932; Wardle, 1937), but the behaviour of tapeworms in artificial media cannot be explained altogether on the ground of differences in osmotic gradient between the *milieu intérieur* and the external environment but rather as due to a specific effect of ions in the medium upon muscular irritability, notably the ions OH', H', K', Mg'' and Na' in the order named; the order may not necessarily be one of relative lethality but one of relative penetrability. Such ions inhibit the region of maximum metabolic activity, H', K', Mg'', and Na' inducing muscular contraction, OH' and Ca'' inducing muscular relaxation. Penetration of these ions, therefore, may bring about contraction of the region of maximum activity in salines containing sodium or potassium or magnesium, or bring about relaxation or paralysis of that region in salines containing calcium. Such a hypothesis explains all types of tapeworm behaviour (Wardle, 1934) and is in agreement with the findings of Child (1924, 1928) and his co-workers in the case of free-living flatworms.

No authoritative information is available concerning the food requirements of tapeworms nor as to the methods by which they satisfy such requirements. The assumption is usually made that the foodstuffs are cell permeable substances such as glucose, amino-acids and glycerol, diffusing through the strobilar body surface into the parenchyma—or through the vesicular membrane into the internal liquid—and that non-cell permeable substances such as proteins, peptones, disaccharides, polysaccharides, and fats are not utilized. Schopfer (1932)

has argued forcibly against the view that host proteins are utilized and believes the main nutritive element to be glucose.

Several investigators—notably Cook and Sharman (1930), Alt and Tischer (1931), Harnisch (1933), Friedheim and Baer (1933)—have shown that tapeworms in media containing oxygen will absorb such oxygen readily, below a temperature limit of 38°C., and that the amount absorbed is proportional to the oxygen tension of the medium; there is no evidence, however, that any more CO₂ is produced than under anaerobic conditions, though Cook and Sharman have shown the CO₂ output to vary with changes in hydrion concentration. In the external environment the oxygen tension is low. The early observation of Fries (1906) of only 0.7-1.3 per cent. of oxygen in the rectal gases of man was opposed by Long and Fenger (1917) who found amounts of oxygen ranging up to 14 per cent. in the gut contents of recently slaughtered hogs, but was confirmed by v. Brand and Wiese (1932) who in a series of Van Slyke measurements of the oxygen content of the bile and gut contents of hogs, sheep, cattle and dogs found the maximum content of bile to be only 0.084 per cent. by volume—the amount occurring in water in equilibrium with an atmosphere containing 3.5 per cent.—and found the gut contents to be absolutely oxygen free or to have only a minute oxygen content, except in a few hogs which had swallowed air during slaughter.

It may be stressed, too, that the by-products of tapeworm metabolism in an artificial medium are carbon dioxide, higher fatty acids, lactic and succinic acids, such as would be produced by glycogen degradation in absence of oxygen; the proportion of fatty acid produced is practically the same whether the medium is oxygen free or oxygen rich (95 per cent.). The conclusion may be drawn that energy production in a strobilar tapeworm is independent of oxygen and depends upon glycogenolysis; the strobilar tapeworm is anoxybiotic.

The ready absorption of oxygen is explained by Harnisch (1933) as the fulfilment of an oxygen debt arising from the accumulation of oxidizable substances produced during anoxy-

biosis and not completely removed from the body. In the presence of oxygen such products will be oxidized at a rate correlated with the oxygen tension of the medium and to a point where an equilibrium is reached between production and oxidation of metabolic products. That the minute oxygen content of the gut may be utilized by the tapeworm is suggested by the demonstration by Friedheim and Baer (1933) of the oxygen-absorbing pigment, cytochrome, in the tissues of *Diphyllobothrium* and *Triaenophorus*.

That anoxybiosis is the normal method of life among intestinal worms is suggested also by the findings of Flury (1912) that the excreted by-products of the metabolism of ascarid worms, living under conditions similar to those of tapeworms, consist not of urea, uric acid, creatinine, and purine bases, but of ammonium salts, caproic acid, butyric acid and especially valeric acid, as much as 0.4-0.85 gram of fatty acids per 100 grams of worm being produced daily. Slater (1925) however has questioned whether the fatty acids are true by-products of ascarid metabolism, and has suggested that they are formed by contaminative bacteria. But as v. Brand (1933) has emphasized, in such case the fatty acids produced by unrelated intestinal worms should agree in chemical nature whereas the contrary is found. Ascarid worms produce chiefly valeric acid, the liver fluke *Fasciola* produces in addition higher non-volatile fatty acids, and *Moniezia* produces higher fatty acids, lactic and succinic acids. Succinic acid can be demonstrated also, in the bacteriologically sterile fluid of vesicular metacestodes (Flössner, 1925).

The high glycogen content of strobilar tapeworms now becomes explicable, and its origin is a matter of considerable physiological interest. Presumably it is synthesized from absorbed sugars or glycoproteins, since the low oxygen content of the gut—if paralleled by a similar low oxygen content or an oxygen lack of the tapeworm tissues—precludes an origin from proteins. Ortner-Schönbach (1913), however, could detect no histological changes in glycogen content of the horse tapeworm, *Anoplocephala*, between control specimens and

those that had been kept for seven days in salines with and without glucose. v. Brand (1933) obtained inconclusive results from anaerobic immersion of *Moniezia expansa* in saline-glucose solutions. Wardle (1937) obtained, however, positive glycogen gain when *Moniezia expansa* was immersed in saline media containing glucose up to 1 per cent., but no gain with other sugars, glycoproteins or aminoacids, and found the glycogen to be depleted rapidly in media which induced muscular contraction but only slowly in media which induced muscular relaxation or induced undulant activity.

IV. GENERAL DISCUSSION

The aim of physiological studies on tapeworms is the establishment of technical methods for keeping tapeworms alive, healthy and normal in artificial media so that methods of tapeworm diagnosis and tapeworm control can be studied. The criteria of favourability of artificial media to tapeworms have been discussed by the author (Wardle, 1937); they are longevity, normality of movement, growth, and development.

The attempts which have been made to cultivate tapeworms or keep them alive outside their hosts may be summarized briefly:

Frisch (1734): plerocercoids of *Schistocephalus solidus* live more than two days in river water. Fabricius (1780): *Proteocephalus percae* can live several days in sea-water. Abildgaard (1793): plerocercoids of *Schistocephalus solidus* live eight days in fresh water. Dujardin (1837): isolated proglottids of *Dipylidium caninum*, *Taenia pisiformis*, *Proteocephalus percae*, and *Hymenolepis fringillarum* will live several days in a saturated atmosphere. Knoch (1863): scolices of bothriocephalid tapeworms from fishes live eight days in aqueous solution of egg albumin. Pintner (1881): many tapeworms from marine fishes live 5-6 days in sea-water plus a trace of egg white. Zschokke (1888): tapeworms from selachian fishes live 24 hours in sea-water plus host gut mucus. Lönnberg (1892): *Triaenophorus tricuspidatus* lives 3-4 weeks in a dilute, slightly acid, pepsin-peptone solution of sodium chloride

at 10°C. in semi-darkness, 14 days when glucose is added, 4 days in peptone alone. Tower (1900): *Moniezia expansa* lives five days in 10 per cent. albumin plus 5 per cent. beef extract plus 2 per cent. glucose, in tap-water. Le Bas (1924): plerocercoids of *Diphyllbothrium latum* live seven days in Ringer-Locke solution. Dévé (1926): metacestodes of *Echinococcus granulosus* live at least 12 days at 37°C. in aseptic hydatid fluid plus fresh unheated horse serum and increase in volume. Coutelen (1926, 1927): scolices of metacestode *Echinococcus granulosus* live for 31 days in hydatid fluid plus ascitic serum and attain a volume 24-35 times the original. Coutelen (1929): individual coenurids of *Multiceps serialis* remain alive for 20 days and double in volume when kept aseptically in sodium chloride solution plus fresh horse serum renewed daily, at 37°C. Cook and Sharman (1930): *Moniezia expansa*, at 37°C., in carbonate-free Ringer solution lives 200 hours; plus M/10,000 NaOH, lives 286 hours; plus M/10,000 HCl, lives 175 hours; plus M/1,000 HCl, lives 90 hours; plus M/100 NaOH, lives 44 hours; plus M/100 HCl, lives 36 hours; plus M/10 NaOH, dies immediately; in distilled water, dies immediately. Wardle (1932): plerocercoids of *Diphyllbothrium latum* and *Triaenophorus tricuspidatus*, and strobilae of *Bothriocephalus scorpii* tolerate balanced salines better than low molecular concentrations of the component salts; tables of longevity values are given. Wardle (1934) gives longevity values for plerocercoid *Nybelinia surmenicola* in a range of saline and nutrient media; maximum longevity value was given by sterilized double strength Locke solution (456 hours); the longevity in serum-saline-gel was 192 hours, in sterilized Locke bouillon 200 hours, in Locke-glucose solution 408 hours. Mendelsohn (1935): 15-day-old *Cysticercus fasciolaris* (*Taenia taeniaeformis*) live 35 days in sterile nutrient of 7 drops balanced saline, 2 drops chicken embryo extract and 3 drops of filtered horse serum, at 37.5°C. Wardle (1937): *Moniezia expansa*, in a wide range of saline media, glucose-free and glucose-containing, at pH values of 6.0-9.0, and at 36-38°C., cannot be relied upon to show activity longer than

12 hours although occasional specimens are active up to three days.

In all the experiments mentioned above, the duration of life in the artificial medium was a mere fraction of the normal duration of life in the host, and in no case was normal growth and development and activity observed.

"The inescapable conclusion from the data presented is that the saline media usually employed in physiological studies are useless for the study of tapeworm physiology and conclusions based upon experiments carried out in such media cannot be accepted as giving an accurate picture of the physiological processes taking place in the worm that is living in the animal gut. That is to say, the bulk of information already accumulated upon tapeworm physiology, scanty as it is, is practically worthless, and workers in this field of physiology will have to adopt a technique more akin to that of the bacteriologist than that of the physiologist. Successful tapeworm cultivation *in vitro* may require that the animal be embedded in a semi-fluid gel after preliminary aseptic treatment. The technique of such asepsis has yet to be established and the author is unaware of any experiments in this direction beyond his own crude and unsuccessful experiments with *Nybelinia surmenicola*. On the other hand, the nutritional requirements of such a tapeworm when *in vitro* may prove to be less exacting than has been supposed, and it may not be necessary to duplicate the nutrient complex that surrounds the tapeworm *in situ*" (Wardle, 1937).

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SOME PSYCHOLOGICAL ASPECTS OF MEDICINE

A. T. MATHERS

PSYCHOLOGY, medical or otherwise, has been unfortunate in at least two ways. Its pronouncements have been attended with an appreciable vagueness rather exasperating to those who are accustomed to deal with tangibles and whose thought and utterances have a certain conciseness, too often perhaps considered as evidence of thorough grasp and understanding. One grants that some of the vagueness of psychological presentation has been of the nature of a cloak for uncertainty, some of it unavoidable because of the very nature of the subject.

Another difficulty has been that latterly, at least, psychology riding high on a wave of enthusiasm, not entirely of its own making, has shown some tendency to oversell itself by creating a demand which it could not supply. This has brought some discredit.

One thing will be granted even by the reluctant, namely, that since the war, at least, there has been going on a reawakening of interest in the psychological accompaniments and implications of organic bodily disease. This, in fact, has been compelled, partly by the accumulated experience of medical men disillusioned in their hope that microscope, test tube or electrical device would ultimately unveil all secrets of health and disease; and partly by the growing realization that in life, its phenomena and vicissitudes, mere physical mechanism was not sufficient explanation. Another compelling force has been the insistence of the public, who, from reading chiefly, has been seized with a psychological enthusiasm, which being uncritical is, at times, disconcerting. Disconcerting or not, however, it has done something to force physicians to take into their calculations factors they had well-nigh forgotten.

As a background, let us make a very brief survey of the

growth of medical thought and doctrine. Looking into "the dark backward and abyss of time" we get the picture of primitive man so beautifully limned by Aeschylus—

"And let me tell you, not as taunting men
But teaching you the intention of my gifts
How first beholding, they beheld in vain
And hearing, heard not, but like shapes in dreams
Mixed all things wildly down the tedious time
Nor knew to build a house against the sun
With wicketed sides, nor any woodwork knew
But lived like silly ants, beneath the ground
In hollow caves unsunned. There came to them
No steadfast sign of winter, nor of spring,
Flower perfumed, nor of summer full of fruit,
But blindly and lawlessly they did all things
Until I taught them how the stars do rise
And set in mystery, and devised for them
Number—the inducer of philosophies,
The synthesis of letters and besides
The artificer of all things, Memory
—That sweet muse mother."

In such a time, Medicine, if we may speak of it as such, was a personal, or at most, a neighbourly service dealing with the visible evidences of injury and disease, conducted with no realization of implications, nothing but awe and fear for what must have been the more than occasional bad result.

As time went on, individuals developed special proficiency in these simple things but added charms and incantations designed to combat the evil influences which delayed recovery or spelled destruction to those who suffered. With growth of knowledge and broadening of scholarship, there lived many men who groped, candle in hand, forever seeking an explanation of the mysteries of life, disease and death. In this group of mystics we descry the figures of Pythagoras, Plotinus, Galen, Luce, Paracelsus, Van Helmont, Jerome Cardan, and many others. And while much of their writing justifies the jibe of Mephistopheles to the student that "precisely where ideas fail, a word comes opportunely into play", we are brought up sharply by an utterance of Paracelsus such as this: "The physi-

cian must possess experience which consists in knowledge of the great world and the lesser world of mankind and these two stand always in intimate interchanging relations, are one and the same but dependent upon each other." This very doctrine—of the indivisibility of man and his setting—points the way to one psychological aspect of medicine which physicians too often forget. We see plainly enough how illness or disease in a man's life may have disastrous effect on his particular world, but we fail to see the converse: that conflict, irritations and frustrations inherent in the setting may cause him to lose happiness and efficiency and to sicken.

Vesalius' anatomy, Virchow's pathology, Harvey's physiology, noble and generous achievements, sent medicine flying into a brisk reaction which landed it in a riot of materialism. The theories and achievements of that age are not condemned. They deserve all praise and rightly receive it. They were great, as we know even better than did the originators. The fault lay in a too all-embracing faith that in them lay the explanation of all things good and evil.

For many years the enthusiasm attendant upon these magnificent discoveries has directed and ruled medical thought, education and practice. To-day we are convinced that something has been missed, or rather mislaid, and *that* is the need for viewing the human being, sick or well, as an integrated unit, a thing of many parts wondrously harmonized, itself part of a still larger whole. And so we go back to the oneness of the Greeks. We seem now to stand at the threshold of an age of rationalism in which life and its phenomena are seen whole, and in which a reasonable balance shall be maintained between the physical, the chemical, the psychological. The latter sadly neglected in the past, now appears to us not as a fad or superstition but a need albeit one not fully recognized even now. We may ask ourselves—Why? What have been and are the obstacles which stand in the way of complete acceptance? One could name many such but without doubt the great obstacle is the continuance of an unwarranted materialism in physicians and patients alike.

During the years of arduous and intensive training, the medical student is subjected to a discipline overwhelmingly materialistic in conception and very largely taken up with the study of normal and abnormal organismal structure and function. Issuing forth into the world he feels himself strong and capable of dealing adequately with all ills which may be brought to his attention. Soon he begins to suspect that there is something wrong—a sizeable proportion of patients and their ills do not seem to fit into his carefully-prepared scheme of things. Complaints sound legitimate enough but histories given are so frequently vague, circumstantial and lacking in directing clues. Physical examination and laboratory tests, relevant or irrelevant, fail to reveal an explanation or, at any rate, one that is satisfying.

At this stage the young physician and for that matter many middle-aged and elderly ones, will follow one of two courses. He will

(1) Immediately suspect the bona fides of the patient and dismiss him with plenty of assurance to make up for his own uncertainty, that there is nothing wrong and that a little self forgetfulness would be a good thing, or he will

(2) Send him on his way with a prescription of little intrinsic merit but which it is hoped will in some mysterious way submerge the troublesome symptoms.

But all too often neither of these techniques works and the patient returns with his original complaint or goes off to someone else, most likely a quack, whose fortunes, incidentally, arise largely from the medical profession's own deficiencies.

Physicians must remember that the great mass of patients are materialists like themselves, and when they present their complaints they expect to hear news of organic disease. Any response from the physician which does not directly ascribe their discomfort to a really respectable and readily understandable structural fault, biochemical disorder, infection or toxæmia, is generally far from satisfying.

The patient does not know, but the physician should, that an individual life is not merely the smooth working of a group

of integrated organs and functions, but that it is a unity in which are included not only these things but the sum total of life's problems and experiences. Failure may arise from the latter and then "no matter how splendid the patient's various organs may be, no matter how valiantly his bodily defences resist organismal attack, no matter how perfect his metabolism may be", distress and unhappiness result. None of us exists apart from his particular life setting and from frictions, frustrations and deficiencies in it; echoes and reverberations are set going in the material body and express themselves in symptoms which cannot be elucidated by appeal to impersonal techniques and tests.

If the physician fails to broaden his professional view to include these factors, he will fail to fulfil his obligations to his patients. To serve rightly and truly he must see that his patients' difficulties will fall into one of three great groups:—

(1) Those in which causative factors are predominantly organic.

(2) Those in which the causative factors are organic in part but predominantly psychological.

(3) Those in which the causative factors are entirely psychological.

Any attempt to force all patients into only one of these groups is bound to result in trouble and dissatisfaction.

So much for generalities. It is not my intention to say anything here directly bearing upon the predominantly psychological disorders, viz., the psychoneuroses and psychoses. We are interested at the moment in what might be termed the dynamics of the relations of doctor and patient.

And first of all let us look at the patient. He is a human being in search of relief from distress. It is granted that the physician is interested in his various organs, the way in which they work together, the integrating functions of the nervous system and the superintegrating mechanism represented by hormones and endocrine secretions. But these are not all that he brings. There are other things to consider. He is bewildered and fearful. At best he has the foggiest or utterly

erroneous ideas of his bodily economy. He does not know the origin or meaning of the phenomena causing him discomfort. Dear only knows what significance he is attaching to them. Of one thing we may be sure, he is wrong nine times out of ten. But to him, as with most of us, the unknown and the poorly understood are fear-inspiring.

We must realize that few people face reality frankly or look their difficulties straight in the face. Mostly we look about for short cuts, detours or another way entirely. For example, an illness, uncomfortable enough in one way, may be a convenient way of escaping responsibility or of gaining the sympathy and consideration which most long for. Many a simple but peculiarly prolonged illness may be so explained, and that, without stamping the patient as deliberately dishonest. It is remarkable how vague and troublesome symptoms will disappear after free and frank discussion of life problems and the giving of advice and assurance, or the urging to a courageous, straightforward attitude toward things hitherto met by evasion or retreat.

There can be no doubt in the minds of those who observe and think that our experiences condition us in subtle ways against the events which come later. To the person once the only child of doting parents who constantly felt the threatening shadow of possible harm hovering about the one vessel of their affection, life is very often full of possibilities of evil. Sensitized and quick to attach sinister significance to each unusual bodily sensation, they so often present the picture of some disease they fear or they deform and magnify legitimate but little dangerous abnormalities to the confusion of the physician to whom they bring their troubles. Can such an individual be understood, his complaints rightly appraised or treatment wisely directed without knowledge of the mental attitude which is bedevilling the picture? We are obliged to take cognizance of all forces that have played upon the individual in his past life. They are not without their influence in producing a galaxy of complaints essentially psychogenic, or in modifying

complaints which at bottom rest upon a basis of physical abnormality.

Special difficulties in present and past experiences, especially those heavily charged with emotion, rarely enter into the patient's comprehension as possible causative or aggravating factors in what he believes to be disease. Granting the need for food and shelter, one must conclude that most of the strivings of human beings centre about three things:

- (1) Social acceptance.
- (2) Occupational gratification.
- (3) A satisfying sex life.

Failure in one or more of these objectives causes discomfort and unhappiness which very often express themselves as physical symptoms. And in the elucidation of such symptoms, physical examination, no matter how thorough, will never suffice. It must be supplemented by psychological inquiry.

In no other way can noxious factors both physical and psychological be discovered, understood and liquidated.

Present difficulties in the patient's life, generally related to one of the three major biological objectives just mentioned, cannot be beyond our attention. Failure to attain desired social recognition strikes a hard blow at many people. These become peevishly introspective, nourish a resentment at things as they are. They are, so to speak, in a constant low state of apprehension and discontent, destructive emotions which impair bodily functions and hence produce unusual and generally disagreeable sensations which shortly become symptoms or so impair bodily resistance that actual physical disease appears.

Similarly, misfits in occupation give evidence of their disappointment and frustration. The woman whose active alert mind rides poorly with the menial tasks into which circumstance has forced her, the man who flounders along in work for which he is by nature poorly equipped, both are ripe material for inefficient and inadequate adjustment to life. Should they develop physical disease or symptoms which to them suggest disease, their plight will be but poorly understood and poorly

managed by the physician who is unaware of a psychological approach or lightly brushes aside its value.

The third of the biological objectives, namely, the sex life, is a veritable *terra incognita* to the great mass of people. There centres in it a tremendous force for good or evil, and yet it is generally left out of our calculations as we strive to help people out of their troubles. We are consulted by the married, those about to be married, and those who want to be and can't. Satisfactory adjustments, of course, are frequent in all these groups, but in each, too, there are individuals in whom difficulties arise in which wise advice and direction will do much toward effecting a solution. Among the married there are many possibilities for trouble. Disappointment in the attainment of the ideals once so fondly cherished, the monotony and drudgery of an uphill battle to keep going, responsibilities grown beyond capabilities, clash of personalities, frank differences in sexual life—again and again one finds these at the bottom of multitudinous complaints, especially of women. In their anxiety to find some respectable material cause for the aches and pains, the disturbed sleep, the lassitude, the rebellious stomach, these people do not spontaneously tell of their extra-corporeal difficulties. They may not suspect them even, or, suspecting them, they may perversely conceal them from the knowledge of others who, knowing them, might help. The long-drawn-out engagement, the engagement that is longed for but never materializes, also give rise to special problems.

The great mass of people—our patients—are highly suggestible. They listen to others' opinions, they read syndicated medical articles in the newspapers and they very frequently accept the information so obtained with little or no critical appraisal. Ideas of disease are engendered, vague discomforts are interpreted and assume alarming significance, treatment is already mapped out. The modern physician is aware that this is going on and must allow for both the process and its effects. The physician dealing with people who are ill, consciously or unconsciously makes use of this same suggestibility, if he is wise and experienced. He fails to do so if unwise and inex-

perienced. The whole relationship between physician and patient is redolent with possibilities. The patient comes to the physician in the first place because he respects his learning and skill—reputation itself is a form of suggestion. The physician's approach to the problem presented, his careful painstaking questioning and examination, his mapping out of treatment with explanations all contain possibilities for suggestion, if they are but recognized and utilized. The physician must remember also the power of his own comments and his attitude. An overly serious attitude, an ill-considered and possibly pessimistic remark immediately impresses the patient adversely. The physician who, finding himself in a position of uncertainty as to diagnosis, covers his uncertainty by indefinite remarks as to the nature and duration of the illness, need not be surprised if his patient accepts the suggestion and continues his complaints for the indicated time or for long periods at least. "A hasty ill-considered diagnosis may fix a neurosis for life." Reassurance and explanation are needed as well as relief of physical discomfort.

Patients, indeed, are sections of life. We have too often and too long viewed their lives in cross section. We shall gain, as they will, when we view them longitudinally. Each is an epitome of history.

"In the minds of all we may distinguish four historical levels:

- (1) an animal mind—all are animals and never can cease to be;
- (2) a child mind—all have been children, and in many ways remain so;
- (3) a savage mind—behind us lie 500,000 years, but this savage mind is always within us—scratch but the surface and it appears;
- (4) the traditional civilized mind—we are born into an elaborate civilization, the constant pressure of which we cannot escape."

In our own lives and in those who appeal to us, we may see evidences of all these and in conditions of stress, it is the fourth which thins out and allows the others to show through. Disease is one such stress, and we must be alive to the appear-

ance and influence of all these forces which none of our meticulous technical devices can measure for us.

I had thought of saying something of the psychological states implicit in certain physiological epochs, but space will permit little more than mention of these, and then of only two of them.

Adolescent patients present characteristics sufficiently important to warrant brief consideration. That adolescence is a period of the utmost importance is amply attested by the attention which it has received—perhaps we should say compelled. The savage in his remote jungle recognizes it as a great period of transition and stages his primitive but elaborate and richly symbolic initiation ceremonies. The novelist knows that in it he has a never-failing source of interest and deftly depicts its astounding kaleidoscopic display, its ambition and despondency, its optimism and despair, its aspirations and its poignant sense of failure. Schools and churches create mechanism and methods to assist the individual in solving, as peacefully as may be, the great problem created when new-found powers are almost precipitately turned loose in a world which in the short space of a year, perhaps, has suddenly broadened and become apparently limitless.

It must be evident to everyone that disease in such a person is not likely to be reacted to in just the same fashion as would the same disease in a middle-aged person. And yet we must look after both, and with understanding.

And think too of that great group of patients, women in the years preceding, during, and after the menopause. They present a multitude of problems, some physical or structural, some hormonal or chemical, and many which are frankly psychological. Whether women admit it or not, and I imagine few would, there remains within them unacknowledged but sensed, perhaps we might say, a realization of their basic biological function. The climacteric writes *finis* across it, and appreciably, even if indescribably, they feel that they are less. The main task of life is over, across the threshold a shadow falls, the road takes its first abrupt and unmistakeable turn toward its ending. It is inconceivable that this can be without its effect.

Then too, the period is very often one over which there have been years of anxious and apprehensive speculation. Possible difficulties are magnified, disasters heard of are kept alive in memory. What is really physiological, in anticipation becomes pathological. They do not know what is coming, but many expect the worst. As times moves on, introspection increases, vague sensations are a matter of concern, analysis and interpretation. Surely among those who appeal to the physician there is no group which stands in greater need not of his physico-chemical skill alone, but equally of his sympathy and understanding.

And what must be the attributes and equipment of the physician himself? Scientific knowledge he must have, and it must be up-to-date and useful. The day of the physician who boasts of never having looked at a book since graduation never should have been, but having been, is now gratifyingly close to its end. And the greater the general knowledge, the broader the culture, the better. The physician must be receptive, observant, content to seek out slowly and patiently motives often unrecognized by the patient himself. There must be an acute sensitiveness to the psychological effects of disease on the patient, the influence of his own attitude and the psychological as well as the physiological effects of his own treatment. All are important—all are necessary.

Allowing for all advances of a strictly scientific character which lie before us, and daily the prospect of change grows greater, one is convinced that the need for consideration of the whole human being—a new Hippocraticism, as someone has called it—will increase. This is an age of revolt against the old and scepticism toward the new. Everywhere there is questioning and seeking. "Science with its almost daily new marvels has shaken the *laissez faire* of our predecessors. The simple faith which gave mental and spiritual security to our fathers and enabled them to live their lives without destructive inner or outer conflicts, no longer suffices." Economic and social difficulties increase—more and more the individual becomes a mere cog in the machine or no cog at all, simply something to

be ground. Pre-emptorily and warningly the spirit of change knocks at every door. Aggression so little needed or desired, submerges co-operation and tolerance, the greatly desired. What is the meaning, the purpose of it all? Can we now stand complacently assuring ourselves as Browning did that "God's in his Heaven, all's right with the world"?

In such a world, can there be any doubt that while disease and unhappiness of physical or chemical origin may not increase, the psychologically determined distresses will? And to whom shall the unfortunate turn but to the physician, and what may he do in preparation but to return to that ancient role in which physician, priest and counsellor think and act as one?

MECHANISM AND MIND IN PRESENT-DAY SOCIAL LIFE

H. W. WRIGHT

IN THE early weeks of the present year, some attention, by way of report and comment, was given in the British press to attacks upon the dominant tendencies of present-day social life, made by leaders in the British educational world at association meetings during the Christmas season. Thus Miss Agnes B. Muir in her presidential address to the annual congress of the Educational Institute of Scotland is quoted¹ as having said:—

“The advancement of science and progress in technology have so far outrun our spiritual development that they have become a danger to civilization and possibly to continued existence. . . . In an age when the ceaseless toil for millions can be lifted by the power of guided machines, the machine seems to have so far outrun our spiritual progress that it is perilously near to running away from the hands which should guide it and crushing out civilization altogether. What heroes does the average youth glorify? The benefactors of mankind? The pioneers in the lonely outposts? No. They must take a back seat well behind the boxers, the professional footballers and the cinema stars. How many people today, having no outstanding qualities of their own, are content to be mere fans—an appropriate designation—beating the air?”

And Dr. Harvey Grace is reported to have said in an address to the Incorporated Society of Musicians at its annual conference in Harrogate that when we read of the mob hysteria and the fan mail evoked by film stars, dance-band leaders, crooners and dirt-track racers, we could hardly disagree with the pessimistic alienists who maintain that a large proportion of the public now consists of borderline cases.

Such statements attract notice today not because they are in

¹By the *Manchester Guardian Weekly*, Vol. 36, No. 1, Jan. 1, 1937, p. 11.

any way uncommon or exceptional. On the contrary, views like these have been frequently expressed in recent years by discriminating and honest critics of contemporary civilization. They have in fact become something of an old story. If, despite repetition, they still have power to attract attention and provoke discussion, this is because of an uneasy impression or disquieting conviction on the part of thoughtful people that the indictment they bring against the dominant character of modern social life and the mechanical inventions which have made it what it is, is exceedingly well-founded.

This indictment would, I suppose, run as follows:—Machine technology and the mechanical instruments it has devised for facilitating the outward activities and inter-play of human individuals on a large scale have had the effect of externalizing the interests and activities of man to such a degree that his inner, personal life is becoming impoverished and his spiritual faculties atrophied through disuse.

It cannot be denied that there is a measure of real truth in this accusation. The indictment can, I think, be so framed as to give it scientific authorization and respectability. The normal development of the human individual depends, the psychologist will agree, upon activities of three main kinds. The first is *sensory stimulation*, the reception through the channels of sense of multifarious impressions which give news of the objects and events of the outer world. The second is *inner integration*, the working over of this material in memory, imagination, rational reflection and constructive planning. The third is *motor response*, the execution of impulses and plans through bodily movement and outward action. If now it be asked, what has been the influence of these mechanical instruments which have altered the face of world-civilization almost over night, upon these three activities, the answer must be that they have facilitated and encouraged the first and the third rather than, or at the expense of, the second.

The enormous enlargement which radio and film have given to the scope and range and diversity of sensory stimulation is too obvious to need illustration. The same may be said of the

effect of automobile, aeroplane, machine tools, electrical appliances, etc., upon man's powers of outward action and motor performance. But no such adventitious aids have been supplied by the arts of technological invention to the inner interpretative processes of rational reflection and creative imagination. Thus, in a generation preoccupied with new ranges of sight and hearing, and fascinated by a variety of new mechanical tools and toys, these inner activities have for the time at least been relegated to the background and allowed to wither from neglect.

Nevertheless, this attack upon the influence of mechanism and mechanical instruments on man's personal life and social development rests upon a serious misunderstanding. At least, it does so when (as is commonly the case) it is made to hinge upon a contrast between an outer world of bodily movement and expression on the one hand, and an inner realm of spiritual activity and achievement on the other. One cannot, to be sure, challenge this dualistic division between body and mind without raising fundamental questions pertaining to the relation of these two which have perplexed human thought from the beginning of history. But if, as psychological investigation appears to prove, the dualistic conception is erroneous, it is worth going to some trouble to correct the error. For no more urgent or pressing problem confronts modern society than this of the influence of mechanism and mechanical intermediaries upon the character and relations of men.

That this influence has been in many respects injurious and deplorable is, I think, evident to an unprejudiced observer of contemporary life. Modern mechanical instruments for communication and publicity, for travel and traffic, for the quantity-production and high-pressure distribution of goods and commodities, for the commercialized, wholesale reproduction of music and drama, are responsible for encouraging to an amazing degree unscrupulous propaganda, mass-suggestion and mob-hysteria, economic exploitation, extravagant expenditure, and the lowering of standards in the various fields of artistic performance. So widespread and disturbing are these effects,

indeed, that we must agree with outstanding critics of present-day social tendencies who hold that if the fruits of civilization are to be saved, and social progress to continue along sound lines, some way must be found to control and direct, if not to curb and restrict the operation of these new products of technological invention.

What measures it is practically wise to adopt, however, will depend upon the relation of mechanism and mechanical instrumentalities to the nature of man. If the dualistic view of the world and human nature is the true one, only one course is open, however small the hopes of succeeding in it. This is to resist by every means in our power this invasion of human life and association by the alien forces of matter and mechanism, to restrict in every possible way the influence of these mechanical agencies, while at the same time we seek to revive and strengthen the activities of man's inner spiritual life. No matter how discouraging the prospect, this is the only course open to us. If, however, the dualistic view is not correct, another attitude and other measures may recommend themselves as more practicable and promising.

Let us therefore see how the case stands with psychological dualism, by reviewing, first, the empirical evidence in its support, and, second, the facts brought to light by later investigations which are causing psychologists to adopt another and quite different view. A few words must be said, however, on the meaning of dualism as a principle or theory in the field of psychology. It is scarcely possible to understand the dualism attributed in this view to the nature of man, apart from its wider cosmic setting.

Man's nature is supposed to divide into two parts, body and mind, because the whole of the real world is divisible into two realms, the material and the spiritual. The former or physical world is extended in space, all events occurring in it reduce to modes of motion and are determined mechanically, i.e., by other events external to them in the nexus of physical causation. The second or spiritual realm is not in space, its processes or activities are conscious, and, as usually conceived, are governed

by the organizing, directing power of purpose, ideal or value. These two realms meet, as it were, in the nature of man. Since they are characterized by totally different modes of activity, it is difficult to see how they can interact with one another in human experience and behaviour. Influenced by these considerations, some dualists have been led to deny that there is ever any real interaction between body and mind, others to suppose that such interaction is limited to a particular place in the human organism, or to certain occasions in the daily life routine.

If the psychologist, in explaining the familiar activities of the human individual, follows the strict logic of the dualistic principle, he is bound to ascribe all the bodily activities of human beings to mechanical causes operative in the human organism, while he explains man's distinctively mental activities in an entirely different way. And it must be said that psychologists of twenty years ago were in possession of a good deal of evidence confirming the dualistic view of human nature to the extent at least of indicating that the behaviour of the human organism can be accounted for in terms of physical causation alone. Investigation seemed to prove that the elementary unit and genetic prototype of all human behaviour is to be found in reflex action.

The "reflex" is that simple and quick reaction which occurs when an irritating dust-particle causes us to cough or sneeze, when a sharp tap on the front of the leg a few inches below the knee elicits a quick forward jerk of the foot, or when changes in illumination affecting the pupillary muscle of the eye produce contraction or dilation of the pupil. These are of course but a few illustrations; the human organism is capable at birth of very many such reflex reactions. Now the reflex seems in its working to have all the ear-marks of mechanical causation, to be prompt, automatic, uniform and invariable. In fact, it appears to present a perfect instance of causal sequence; the external stimulus affecting the sense-organ and arousing there a nerve-excitation which is carried forward by a chain of connecting fibres to a muscle which it excites to movement.

Still further, continued studies, particularly of animal behaviour, brought to light facts which indicated that the more elaborate forms of human behaviour, far removed in their complexity and co-ordination from the simple reflex, could be understood as the result of the combining and enchaining of reflexes into serviceable habits, due to influence of external conditions early in the life of the individual. Not only this—but such facts as were at hand two or three decades ago suggested that we have in the reflex and the ways in which reflexes combine a key to the structure and organization of the nervous system. The multiplication in millions, of nerve-cells and of junction-points between their branches, has the biological utility of making possible more and more complex and varied combinations of reflexes. In particular the nerve-centres, most of all the brain, facilitate such combination by supplying countless numbers of intermediating pathways, incoming currents being conducted to local sensory centres in the brain cortex, outgoing currents taking their departure from other areas known as motor centres, and the remainder of the brain cortex between these local centres furnishing countless numbers of possible intervening pathways whereby nerve-currents can be shunted back and forth.

Turning from the bodily to the mental side of human nature, it cannot be said that psychological investigation had furnished as much scientific evidence in support of the contention of the dualist that mind is a separate entity with modes of activity wholly its own and entirely different from those of body. Perhaps this was because the matter in question did not lend itself so easily to experimental investigation and the evidence to be obtained consisted mainly in deliverances of direct human experience which had for long been familiar to psychologists and philosophers. Hence there were to be found many psychologists whose dualism amounted to no more than maintaining the completely mechanical character of all bodily activities while admitting that specifically mental processes accompany in some inexplicable way certain of these activities of the organism.

Those who did go further based their psycho-physical dualism upon the unique character of consciousness as lacking the spatial properties of material objects and possessing exclusive features of its own. Thus Prof. Wm. McDougall, ablest defender of dualism among psychologists of the present generation, has held that the distinctive feature of mind is purposive activity, i.e., activity determined by a conscious impulse toward an end or goal. Other activities of mind which are essentially conscious and hence capable of the same kind of explanation would, from this point of view, be thinking, imagining and appreciating, through whose exercise ideas and feelings are correlated and organized in conformity to the demands of ideals and standards authoritative in these different fields of human experience.

Despite evidence that seemed convincing enough twenty-five years ago, the dualistic view of the relation of mind and body is rejected by the great majority of psychologists today. It has been rejected because it does not harmonize with the facts recently discovered by experimental research in the psychological and neurological fields. So far as the bodily organism and its activities are concerned, the reflex theory has totally collapsed. Even the simple reflex has been proved not to act with the mechanical uniformity and regularity formerly ascribed to it.

Prof. Raymond Dodge, whose extensive experimental studies of reflex reaction have made him an authority on the subject, shows how a reflex in its operation acts upon, and in connection with, the whole nervous system of the individual it affects, and "the reflex stimulus never finds the system in which it acts exactly alike except by accident."² Furthermore, as Prof. Judson Herrick, well known as a leading neurologist, states, it is now a well-established fact that "simple reflexes are not the elementary units of human behaviour, and the conduct of human and animal bodies is not fabricated by monumentally

²Dodge, Raymond: *Conditions and Consequences of Human Variability*. Yale University Press, 1931, p. 102.

piling up simple reflexes."³ Behaviour development in the human individual does not consist in the progressive combining of originally simple reflex units into more and more elaborate action-patterns. On the contrary, it has been proved⁴ to take its beginning from large total movements of the whole organism, and to consist of a progressive differentiation of specific, localized movements within the unity of the total pattern.

In line with these discoveries, the human nervous system has been shown not to be built out of bundles of reflex circuits super-imposed on one another and furnishing networks of insulated conduction-paths after the model of the automatic telephone exchange. It has been demonstrated rather to include a number of different levels of organization each of which contributes a qualitatively different function to a dynamic total-organization which embraces all the other levels as well.⁵

Twenty-five years ago, Prof. Lashley, by his famous experimental studies of the effect on the rat's learning powers of the surgical removal of different sections of brain tissue, established the fact that sensory and motor functions, and anatomical conduction-paths are not strictly localized on the brain cortex in the way the reflex theory had supposed.⁶ His results are being confirmed by carefully controlled observations of the resulting effects on human behaviour of the removal of brain tumours.⁷ All recent evidence indicates that brain activity takes the form not of the coursing of multitudinous nerve-excitations which shuttle back and forth over an elaborate network of insulated

³Herrick, C. Judson: *Factors in Neural Integration and Neural Disorder*. Contributed to *The Problem of Mental Disorder, A Study undertaken by the National Research Council of the U.S.* McGraw-Hill Book Co., 1934, p. 198.

⁴By such researches as those of Coghill, G. E. Cf. his *Anatomy and Behaviour*. Cambridge University Press, 1929, pp. 108-110.

⁵Papez, J. W.: "The Brain Considered as an Organ, Neural Systems and Central Levels of Organization", *American Journal of Psychology*, Vol. XLIX, No. 2, April, 1937, p. 231.

⁶For a summary of Lashley's conclusions cf. K. Lashley: *Brain Mechanisms and Intelligence*, University of Chicago Press, 1929, pp. 175-176.

⁷Thompson, W. H.: "Brain Surgery and Psychology." *Journal of Abnormal and Social Psychology*. Vol. XXX, No. 13, Oct.-Dec., 1936.

pathways, but of the play of extensive, intricate and ever-shifting energy patterns. To conclude, all these results of recent research converge in the one direction of demonstrating that the characteristic activity of the human organism is not mechanical, topographical, and aggregative, but is rather dynamical, configurational and organismic.

So we see that the progress of experimental research has convinced psychologists that the human organism exhibits in its behaviour some of the characteristics formerly attributed exclusively to mind. But it has also and on the other hand convinced them that mind and mental activity are much more intimately and essentially connected with bodily processes than had been supposed. I do not mean, convinced them that characteristics of human nature formerly regarded as exclusively mental are in scientific fact merely activities of the human body. This would be to escape the dualism of body and mind by denying existence of the latter in any distinctive sense. What is really meant, is that mental activities in their truly distinctive character are necessarily involved with, and functionally dependent on, the activities of the human body.

So, for example, with the processes of human thinking. These are found to involve and depend upon bodily activities of inner speech, and continuous, slight and imperceptible responses of the muscles of the head, neck and, to some extent, the whole body. Not many years ago, the radical behaviourist in psychology, J. B. Watson, startled the reading public by his widely advertised assertion that human thinking was nothing but a sub-vocal language-response. Watson's views, after enjoying a brief currency, have passed into the discard—being dismissed by almost all psychologists as one-sidedly partisan and unwarranted by fact. It is now generally agreed that he was unwittingly dominated by the very dualism he contemptuously repudiated. In order to rid psychology of his pet antipathy, mind or soul in the exclusively spiritual sense, he tried to reduce the distinctively mental in human behaviour to terms of organic processes understood in the exclusively physical sense. But still it remains a fact well-attested by experimental

procedures that thinking involves, and depends upon, organic activities, not merely of the brain and rest of the nervous system, but of the whole bodily musculature, including, and centring in, the muscles of the speech apparatus. As Herrick says: "When we are thinking, our whole body thinks. We think all over just as a bird flies all over, and just as we are alive all over."⁸

In similar fashion, our impulses to action, the purposes we conceive, even mere ideas of action which "flit through our minds", involve minute, incipient, and of course imperceptible, movements of the muscles employed in the type of action imagined. Prof. Jacobson has demonstrated this fact by a course of experimentation carried on for a number of years in his University of Chicago laboratory. He devised a special instrument for the electrical measurement of very slight and brief muscular contractions and relaxations. Using this instrument with a great many subjects, both trained and untrained in laboratory procedure, he has found that when a subject with the electrode attached, e.g., to the flexing muscle of the right forearm, is instructed to imagine lifting a weight, a decided if slight muscular contraction is recorded, while if told to imagine bending the left foot, no action potentials are recorded for the right arm. In the case of a subject who had suffered the amputation of the right forearm, when told to imagine bending the lost forearm, the instrument showed contractions occurring in the corresponding muscles of the intact limb and in the remnant muscles of the amputated limb.⁹ Still other distinctively mental activities are proving to be related in a most intimate and thorough-going manner to organic conditions and activities. Feeling and emotion constitute another notable instance. Sufficient evidence has been collected to prove that typical primary emotions like fear and anger, hunger and sex-love depend directly upon responses of

⁸Herrick, C. Judson: *The Thinking Machine*, University of Chicago Press, 1929, p. 249.

⁹Jacobson, Edmund: "The Electrical Measurement of Activities in Nerve and Muscle," *The Problem of Mental Disorder*. McGraw-Hill Book Co., 1934, pp. 141-142.

the smooth-muscle tissue of the viscera, and the organic effects of the release of endocrine secretions. Astonishing discoveries have lately been made, we all know, as to influence of the hormones of these last-named glands upon the mental life and personal character of humans. Deficiency in the secretion of one of these glands in early life may hinder mental as well as bodily development, and profoundly modify personal character. Let this deficiency be made good, mental development picks up, and the person returns toward the normal. If from any circumstance or condition, the balance between these glandular secretions is upset at some period in the life of the individual, such as puberty or menopause, the effect is at once seen in disturbance of personal poise and distortion of personal character.

Some of the evidence has now been presented which has led psychologists in our day to the conclusion that human nature is not the junction-point of two separate entities, body and mind, but is a dynamic unity in which the activities possessing the distinctive characteristics we call mental, and the activities possessing the distinctive characteristics we call bodily, work together in complete organic interdependence. So far as the facts open to our observation and experimental verification are concerned, human personality and the human organism are inseparable, inter-penetrating, and dynamically one.

The truth and importance of this statement may be admitted, yet the question naturally arises: What is the bearing of all this on the question with which we started, of the influence on present-day social life and personal development of the newly invented machinery of social interaction and inter-communication? The connection in question can be made clear after we have taken notice of a significant consequence for social behaviour of the fundamental fact that human personality is essentially a psycho-physical unity.

But first this practical consequence must be pointed out, and its implications carefully explained. It is, in brief, that what we call the bodily actions, the outward and observable behaviour, of the human individual, are not merely representa-

tions in an alien medium of mental states which exist only within the confines of his own personal consciousness, and hence are known to him alone. They are instead direct, authentic expressions, or better activities, of his personality. So that when we listen to the talk of other people, notice their gestures and changes of facial expression, and observe what they are doing, what we perceive and understand is not a sequence or set of bodily movements which, because determined by the laws of physical nature, can only imperfectly represent ideas and feelings and purposes which belong to another and quite different, viz., a mental, world. What we really perceive and understand in such cases is the personal thought and emotions of others, their personal aims and their methods of accomplishing them.

That bodily movements are in this sense activities and expressions of personality has been recently borne out by an elaborate and interesting experimental study.¹⁰ The joint investigators were Prof. G. W. Allport of Harvard, and Dr. P. E. Vernon of Cambridge University, both highly qualified in this department of psychological research. A diversified group of twenty-five male subjects were given, in the course of three private experimental sessions with each subject, thirty simple tests carefully devised to provide accurate record of their natural and normal manner of performing simple motor tasks. These tasks were supplemented by "ratings", i.e., a number of observers were asked to rate in accordance with a given scale, the performance of each of these subjects in types of motor behaviour not easily accessible to experimentation. Case-studies were also made of four of these subjects selected for their well-marked individuality. Finally, samples of their hand-writing were sent to be independently judged by the greatest living authority on chiropgraphy.

Now if bodily movements are expressions in the sense of being themselves the activities of individual personality, we should expect to find a fairly high consistency, (1) between

¹⁰Cf. Allport, G. W., and Vernon, P. E.: *Studies in Expressive Movement*. Macmillan, 1933.

repeated performances by the same subject of the same task on different occasions, (2) between the scores obtained by any subject in different tasks, (3) between the objective measurements and the case-studies, and (4) between these latter and the motor qualities of the subjects based exclusively on expert interpretation of the hand-writing. Without entering into any detail, or touching at all upon many features of great interest and importance in this investigation, it may be said that when the correlation co-efficients were figured out, a significantly high degree of consistency or correlation was shown in every one of these respects. Thus definite consequences deduced from the hypothesis that bodily movements are expressive of what is consistently individual in human personality received experimental confirmation.

The bodily movements or motor performances of human beings are of many different kinds. Among all these different forms of outward behaviour, three are preëminent, however, in their effect on man's personal life and association. One of these is the response of articulate speech, consisting of movements of the speech-organs, accompanied by gesture and supplemented in the course of social evolution by hand-writing. The human is distinguished from all other living species by the possession and use of language, and it is this power of highly differentiated speech which has made possible the growth and exercise of human intelligence. The second kind of motor response which has been a determining factor in man's personal and social life is that of manual or manipulative contrivance, making use of the hand with opposed thumb (peculiar, as Darwin emphasized, to the human species), assisted by the connected muscles of the wrist and arm, and made effective by the erect posture and locomotion which frees the hand for manipulation and brings it under easy guidance by the eye. The social importance of this response in enabling man to utilize the resources of his natural environment is so great as to lead that profound student of human evolution, Bergson, to characterize man as primarily not a speaking, but a tool-making and tool-using animal.

The third type of response is less specific and less easy to define, yet scarcely less momentous in its personal and social consequences than the other two. It consists of responses of the facial muscles controlling what we call the expression of the countenance, and also of the movements of gesticulation, posturing and exclamatory vocalization—by all of which the human individual gives observable expression and embodiment to the feelings and emotions which possess him. It is to be noticed that such movements of gesticulation, posturing and vocal exclamation pass over by degrees into those of dancing, dramatic and pictorial portrayal and song, whence they develop in due course into the various branches of fine art.

Before returning to our practical problem of the effect of mechanism upon modern society, it remains to point out certain features common to these types of bodily activity or motor response to which particular attention must be paid because of their direct bearing on the argument to follow. In the first place the three behaviour-forms in question serve the distinctive interests of man's personal and social intelligence. Speech is instrumental to the rational analysis and interpretation of the world of human experience; through it man's cognitive interest, his intellectual curiosity, gains fulfilment. The power of speech enables man to respond to the attributes and qualities which identify classes and kinds of objects, and to the forms of relation and types of unity discoverable in existing objects and events by giving them names. Thus he obtains for these products of rational analysis and abstraction, concrete symbols in the way of motor responses under his own control and capable of unlimited variation among themselves, which can act as stimuli for the recall or revival, and the re-organization, of these significant features of the real world.

Through manual contrivance and practical invention, man gains mastery over the forces and materials of the natural world in the economic field, and over the instinctive tendencies of his own biological inheritance in the social realm. By actually manipulating with the purpose to contrive, and observing the results of such practical experiments, the human worker learns

what he could find out in no other way: how the forces of nature can be combined and adapted to serve rational and social uses. Through the responses of emotional expression, as subjectively experienced and as observed in the behaviour of others, man realizes the human social meaning of changing patterns of form and colour and sound and movement as presented by the contacts and episodes of social life, on the face of nature and in the products of artistic creation.

It is impossible to understand or to do justice to the part played by these three bodily activities in the field of human association without referring to a second salient characteristic which they all possess. This is that the activities we are discussing are all of them forms of communication. Through speech men communicate ideas, beliefs and opinions. The language which the individual acquires in infancy and childhood is itself a social product. As such, it is the means whereby the individual's own ideas and imaginings are converted into the current coin of social interchange, so that even his private meditations become a form of conversation, a species of social dialogue.

In this connection I would emphasize the point touched on above—that such communication is not indirect, depending on processes of recall and inference on the part of the participant, but is usually a matter of direct perception of understanding by him. That is to say, when I talk with an acquaintance I do not first listen to and perceive his words, then translate these verbal symbols into terms of my own conscious experience, and finally reach a conclusion as to their meaning. Instead, his words as they are heard evoke directly a comprehending response from me; I respond to the sounds of his voice by perceiving or knowing the objects or relations to which his words refer. The words themselves may be few, grammatically disjointed and fragmentary; nevertheless I respond by reconstituting the total meaning they indicate.

In the case of manual contrivance and practical invention, the individual communicates the technical methods and appliances he has devised by objective demonstration when he

employs them in the presence of his fellows who understand what he is aiming to accomplish, observe his methods, and appropriate to their own use such devices and procedures as prove successful in accomplishing their aim. In grasping the meaning of others' actions we do not ordinarily proceed through a sequence of steps, first seeing their movements, then imagining from the character of these and our own past experiences of action what is their probable aim, and arriving in this way at an understanding of what they are now doing. Rather, we directly perceive the actions of others in their functional relation to that completed achievement toward which they tend—literally, we see what they are trying to do.

The third-named form of bodily activity is also essentially communicative. By quickly-changing patterns and shades of facial expression, by bodily mien and movements and vocal cries, men communicate to others their feelings and something of the meaning these feelings have for them. Here again, we do not first notice these bodily changes which occur in others, then on the strength of analogy with the ways in which we express our own emotion, infer how they are feeling. As with others' purposive actions, so with their emotionally expressive movements—we perceive them dynamically, i.e., in terms of the instigating objects toward which the organic and personal tension displayed in their behaviour is directed. But the communicating of significant emotion by means of patterns of sense-imagery has a much wider range than this. In special fields of social interest such as nationalism and religion, certain sense-symbols like flags and uniforms, emblems and songs, vestments and ritual, are effective intermediaries for the intercommunication of emotion. And so of art. "There is little doubt," says Prof. H. S. Langfelt in a recent article, "that aesthetic expression is the best means for the communication of affective states, and therefore one of the most fruitful sources for a study of such communication, as well as for an examination of the states themselves."¹¹

¹¹Langfelt, H. S.: "The Place of Aesthetics in Social Psychology", *British Journal of Psychology*. Vol. XXVII, Pr. 2, Oct. 1936, p. 141.

By virtue of the two characteristics just explained, that they serve the distinctive interests of personal intelligence, and that they are essentially communicative, the three activities under consideration have played a leading part in man's personal development and social culture. They are in fact the agencies on which human beings have had to rely for the co-operative realization of the most inclusive and enduring values of social community. Through observation and discussion, through reflection and logical formulation, through oral explanation and the writing and reading of books, men have gained a common store of knowledge of the facts of the natural world and their own human nature. They have gained an increasing measure of insight into, and respect for, truth. By joint effort of practical contrivance in the fields of industry and government, men have accumulated a common stock of industrial appliances and technological methods, of social customs and political procedures. Thus they have realized to some degree their collective power over the external conditions which confront human life and intelligence on this planet, and their comradeship in the constructive labours of social amelioration. Thirdly, they have gained through emotional and aesthetic interchange, through artistic production and intelligent appreciation, a common stock of sensuous symbols of associative experiences, interests and aspirations. Such growing appreciation of beauty in nature and in works of human art brings with it a deepened and more sympathetic appreciation of those experiences and vicissitudes which are the common lot of man.

After this somewhat lengthy excursion into the territory of psychology, the time has come to take up again that question which originally excited our interest, of how the technological instruments which in their great and amazing variety dominate our civilization and differentiate it from every previous stage of human history, are related to human nature and the personal associations of men. The survey we have made of the results of recent psychological investigation prepares us to recognize a fact which furnishes us with a clue to the answer we seek.

This fact toward which our whole discussion has pointed,

has been strangely overlooked and ignored in current discussions of the problem now before us. It is that all these technological instruments which have revolutionized the social life of man, from telephone and radio to automobile and aeroplane, from electrical household appliances to automatic machinery for engineering construction, the quantity manufacture of economic goods and the reproduction of art products, are extensions through physical forces and mechanical intermediaries of man's bodily organs of articulate speech, manual contrivance and fabrication, and emotional-aesthetic expression.

If this statement needs confirmation, such confirmation is furnished by the striking way in which these mechanical instrumentalities relate themselves to the three organic agencies or activities mentioned. Consider in the first place all mechanical devices for the transmission of fact and opinion: telegraph and telephone and radio, the newspaper and colour-press, billboard, illuminated sign, and news-reel. These are all of them means of increasing through physical intermediaries the range both in space and time, and the social influence, of man's powers of articulate speech, oral and written. Think secondly of the modern machinery for the production and distribution in unprecedented quantity and variety of economic and cultural necessities and luxuries, and for the organization of human activities in the vast and intricate network of the modern city or nation. What is this but a similar extension of man's powers of manual contrivance and practical invention in the industrial and social fields. And take, finally, the devices for the mechanical reproduction of natural scenery, pictorial art, musical composition and dramatic performance, chiefly of course the sound-film and radio. These are one and all mechanical means for making available for popular appreciation and enjoyment on a practically unlimited scale the products of man's powers of emotional expression and aesthetic perception.

Now if this is a fact, and I do not see how it can be denied, there follow from it consequences of genuine, far-reaching social importance. The products of modern science and inven-

tion are not correctly understood as belonging to another, alien world, a world of matter and mechanism, forever separate and divorced by essential nature from that other inner realm in which alone are realized the distinctively human and truly personal values, such as truth, practical goodness and beauty, the "imponderables" of the spirit. On the contrary, they, like the organic agencies whose power and range they enormously augment, are in veritable fact projections of human personality itself and means of satisfying the distinctively personal interests of man. If this, then they are instruments now in the possession of modern society for the realization by concerted human effort of the values of universal social community, of human association on the level of personal intelligence, the values of common insight and mutual understanding, of fellowship in productive labour, of sympathetic appreciation of beauty and harmony in the natural world and in human life.

These are admittedly large claims. They will be met by a good deal of scepticism, and not a little outspoken objection. One can imagine a well-informed and honest, although hostile critic unburdening his mind somewhat as follows: "I of course agree that these mechanical instruments and devices which dominate the modern social scene are the products of human intelligence and, as such, serve human purposes. I can also see how, as you say, they may be understood as the extension through physical intermediaries of the human organs of speech, of manual contrivance and of emotional expression. It is of course true that ideas and information are disseminated on a vast scale by the facilities of the metropolitan press and radio broadcast and news-reel, that modern machinery has enormously increased the quantity and variety of commodities which men by combined labour can produce, that radio and motion-picture theatre do offer for public enjoyment and appreciation much that is fine in music and drama. But how anyone with half an eye for what is going on about us in the contemporary world can hold that these mechanical marvels are instruments whereby men engage together in co-operative pursuit of the "higher things of life," knowledge, constructive

social achievement, and beauty, certainly passes my comprehension! No one but an academic theorist could remain oblivious to the fact that modern mechanical instruments of communication and publicity have created an art of public propaganda of astounding, incredible efficiency whose mechanism is all geared up and ready to serve the ruthless ambitions of political dictators and unscrupulous schemes of commercial pirates—that modern machinery for wholesale economic production and far-extending social interaction enables profiteering groups, commercial and nationalistic, to exploit both the material and the human resources of earth for their own enrichment and prestige, and that modern science and invention have placed in their hands weapons of unprecedented destructiveness for use in the furtherance of their plans and the defence of their gains—that modern mechanical devices for public entertainment have encouraged the purveyors of such entertainment to cater to what is mediocre and low in public taste in order to increase their own profits, and the public to find in the thrills supplied by such entertainment an escape from the responsibilities of intelligent citizenship and neighbourly co-operation. Surely, unprincipled propaganda, irresponsible profiteering, imperialistic exploitation, sensationalism and bally-hoo are the conspicuous fruits of mechanically intermediated social interaction, rather than knowledge, mutual understanding, comradeship in constructive achievement, and the enjoyment of beauty in nature and art!"

Assuredly there is much in contemporary life to justify such diatribes as these. Exaggerated as they doubtless are, these statements pretty well describe the social situation of the modern world. But it is a great mistake to suppose that the facts cited constitute any disproof or refutation of the conclusion arrived at, that modern mechanical instruments are veritable extensions of the powers of human personality and effective means for the co-operative realization of the most comprehensive and enduring values of personal and social life. A little further examination of the psychological factors involved in the employment of modern technological inven-

tions will help to explain, if not to extenuate, their misuse by the present generation, with all the social evils of which we scarcely need to be reminded and which we continually deplore.

Account has been taken of two social uses subserved by these technological instruments for extending the range and efficacy of man's bodily organs of speech, manual contrivance and emotional-aesthetic expression. The first is that of the communication of ideas, of practical appliances and procedures, and of emotional experiences. Ideas, opinions and information are communicated and understood through the medium of the newspaper page, bill-board and poster, telephone, radio and news-reel; labour-saving devices for every practical industrial and social purpose, including of course time-saving and space-conquering machines for travel and transportation, are manufactured by quantity methods and made available for general use; "heart-gripping" plays and "soul-stirring" music are reproduced for public enjoyment by radio and sound-film. The second social use, already referred to, of these mechanical devices is that of the co-operative realization of the intrinsic communal values of increasing knowledge, growing mastery over the physical and biological conditions of sane social life, and of the more intelligent appreciation of beauty in all its forms. Thus modern mechanical devices for the transmission and publication of ideas may be employed to widen the area of intellectual interchange, to stimulate individual thinking and to focus it upon subjects of common social concern, to maintain general discussion on an unprecedented scale—in short, to bring about genuine collective thinking which issues in an informed and competent public opinion. So also modern machinery for economic production and distribution, and for organized social endeavour, has made practicable for the first time the effective co-operation of nations of many millions in providing the economic goods and the social services requisite for the well-being of all. And, similarly, such inventions as the sound-film, radio and television might make accessible to the enjoyment and appreciation of whole populations what

is most beautiful and humanly significant in the field of art and the world of nature.

There remains, however, a third social effect of these mechanical devices of which no notice has as yet been taken. This effect goes further than bare communication with understanding, and not so far as co-operation, and is of great importance to the student of present-day social life. For, one is tempted to think, it is in producing this third effect upon social behaviour that the mechanical instrumentalities in question have had their greatest influence upon contemporary society. Words and statements may be read or listened to with comprehension, then without any further thought or question, may be accepted, believed and (if occasion arises) acted upon. This would be what psychologists call belief from suggestion. It cannot be called rational belief because it depends on no critical examination of the statement or idea, as to evidence or grounds for acceptance. Such belief is produced by the joint influence of two factors: prestige on the part of the suggesting source, acting in conjunction with impulses or attitudes in the subject which pre-dispose him to feel an interest, and take stock, in certain ideas. Undoubtedly the printed page and the radio voice possess a peculiar prestige with the average person, and when this prestige operates to reinforce statements carefully prepared to make instant connection with powerful underlying impulses or susceptibilities in human nature, the result is to produce very general acceptance or belief.

The case is much the same in the sphere of action. Here too we may have mere communication, as when men observe and understand the methods pursued by others in attempting to accomplish a desired result, but are quite uninfluenced by them in their own actions. Or we may have, as a second possibility already recognized and explained, such communication leading to real co-operation, as when each individual member of a group who are working together, or with continuous knowledge of one another's activities, selects from the methods he sees others employing along, of course, with such improvements

as he can himself devise, such technical procedures and tools as will enable him to contribute most effectively to the joint undertaking. Or we may have as the third alternative with which we are now concerned, operative techniques communicated through practical example, and then unthinkingly imitated by all beholders.

The effect of the recent rapid multiplication of newly-invented mechanical appliances of all kinds has been to encourage this type of uncritical imitation. As an outcome of many influences (in addition, of course to the fascinating novelty and incredible efficiency of these things) such as the continuous pressure of salesmanship, advertising and public display, and the fact that their ownership and use is a conspicuous symbol of prosperity and power, one observes as a dominant note of the modern social world blind imitation in the possession and use of automobiles, radios, household appliances and furnishings, business methods, office equipment, etc.

Likewise in the field of emotional expression and aesthetic perception, as can easily be seen without drawing out the detailed parallel. Enjoyment of a work of art may spring from an intelligent perception and discriminating appreciation of the features it presents. Or it may spring merely from a wave of sympathetic and agreeable emotion. Undoubtedly, the screen production and radio broadcasting of music and drama have had in the main the effect of replacing the discriminating appreciation of the few by the emotional responsiveness of the many as a determining influence over artistic standards in public entertainment. As a rule, the film that pays the highest profits and the radio programmes that are most popular and therefore most remunerative to advertisers, are those which afford the greatest number of pleasant emotional thrills or the greatest amount of contagious mirth.

Social influence by suggestion, imitation and contagious sympathy have been much studied, and are well understood, by psychologists. There is no doubt that their efficacy and scope have been tremendously increased by the use of recently-invented instruments of communication and publicity, in

connection with new methods of uniform, large-scale production both of economic goods and of sources of public entertainment. It is also beyond question that this is largely responsible for the sensational publicity, the lying propaganda, the intrusive salesmanship, the vulgar advertising, the flaunting display, the commercialized debasement of art, which afflict contemporary civilization like a pestilence.

The distinguishing and salient characteristic of these modes of social influence is that they are un-intelligent. In action from suggestion or imitation the individual, as the psychologist would say, "responds to a social stimulus uncritically". He accepts the idea or copies the action conveyed to him from some social source without consulting his intelligence, without submitting its claim to critical examination by thought. Now it may seem strange indeed that a mode of social behaviour characterized by its lack of intelligence should prevail to the extent it does in the civilized societies of today where the general level of popular education is perhaps higher than it ever has been in the social history of man. In particular is this true of western democracies in which an unprecedented proportion of the population have had the advantage not merely of a primary but of a high school education. But we must remember that there are two sides to this matter. "Since suggestibility and imitativeness depend upon an ability to understand and appreciate the significance of social stimuli, i.e., the symbolism of language and of other behaviour forms through which meaning is communicated, they may be increased rather than diminished by the forces of civilization. Thus while education is the only road to social enlightenment, literacy opens the way for a flood of suggestion and propaganda from which the illiterate are effectually insulated. While early training and detailed proficiency in the manners and conventions of organized social life prepare the individual for social advancement, they also render him more susceptible to social example and prestige. While thorough acquaintance with the "conventional language of emotion", as exemplified not merely in everyday social contacts but also in dramatic

performance, creates new possibilities of social interest and satisfaction, it also reduces the resistance of the individual to the contagion of crowd-feeling."¹²

What is the remedy for these evils? Certainly it does not lie in wrong-headed and futile attempts to reduce to any marked extent the part played by these technological inventions in present-day social life. They add so decidedly to the comfort, the interest and the zest of ordinary life that modern man will never relinquish them or abandon their use. If they are ever to fall into disuse or perish from the earth, it will be along with the destruction of civilized man and all his works. In what direction shall we look, then, for a remedy? It can only be found in the fullest, most skilful employment of these mechanical agencies to serve the ends which as products of social intelligence they are well-adapted to serve—increase of intellectual enlightenment, of the spirit of industrial and political co-operation, and aesthetic appreciation among men. The difficulties to be overcome in converting machinery whose principal present social function seems to be to furnish sensational news, startling pictures, emotional thrills, exciting amusements, novel luxuries, helpful conveniences and fascinating gadgets of all kinds, into a means of popular enlightenment, economic and social co-operation, and the sympathetic appreciation of beauty, will no doubt be immense. So great, in fact, as to convince many persons of realistic outlook that the undertaking is quite impracticable.

Before we agree that the difficulties are insurmountable, however, it will be well to remind ourselves of the issues which are at stake. Chief among them is the survival of democracy itself. Democracy in the political sense means the government of a nation by the collective thinking and voluntary co-operation of its whole citizen-body. Now it is indisputable that these modern mechanical instruments of communication and publicity, of economic production and distribution, yes, even of public entertainment and recreation,

¹²Quoted from an article of mine, "Three Kinds of Agreement", *University of Toronto Quarterly*, Vol. VI, No. 1, Oct. 1936, p. 74.

bring the democratic method of government for the first time within the range of possibility for a great nation in the modern sense.

Through the instrumentality of the daily press with all its mechanical aids and accessories, the radio, the screen and television, it is now at least possible for a discussion of public problems to be carried forward which reaches the notice of nearly a whole national population of many millions, invites and obtains the participation in one form or another of hundreds of thousands, and results in the formation of opinions which may with substantial truth be said to reflect the judgment of the national mind on the questions under debate. Newly-invented methods of machine-production and operative organization make national co-operation in the economic field for the first time a possibility. Modern methods of social organization depending upon the continuous gathering and interchange of information, wide and effective publicity, rapid travel and transport, make it possible as never before to combine administrative efficiency in government with responsiveness to public need and opinion. Radio and screen so far as they present picture and drama and music of real beauty are new influences fostering the spirit of concord in any national unit by increasing the humane understanding, tolerance and sympathy among its citizens.

But how many who profess loyalty to democracy actually care enough about it to join in the concerted, protracted effort it will require to turn mechanical inventions now used mainly as sources of individual convenience and enjoyment and pecuniary profit into instruments of social culture and political progress? Prof. Wm. Orton raises this question of motivation in a recent article urging that general support be given to organizations established to foster educational broadcasting, adult education, and the realization of the cultural possibilities of the radio and motion-picture theatre. He recognizes that any attempt to influence by governmental policies or national agencies the dissemination and interchange of ideas, the en-

listment of individual activity in co-ordinated effort at economic betterment and the improvement of aesthetic standards of public entertainment, runs directly counter to the individualistic and go-as-you-please tradition and temper which is very deep-seated in democratic societies. But the present situation, he holds, is one of crisis for democracy, and will brook no delay. He writes: "We have to ask ourselves whether the practice of *laissez faire* in cultural matters is giving us a morale high enough to stand the strain in the coming crisis. . . . Can we, consistently with the principle of liberty in education and culture, attain such an intelligent harmony of will and idea as will preserve us from becoming enemies of one another and a menace to our neighbours? . . . If we fail, the penalty will be very heavy. It will involve among other things the disappearance of the form of government and the kind of liberty to which we have grown accustomed. But if we are to succeed, one pre-requisite is evident; we must foster intelligence and the power of reason as energetically as dictatorships foster emotion and the power of the myth."¹³

Just what methods and measures will have to be adopted in order to make mechanical invention the servant of social culture and political progress can only be discovered by trial and experiment. Doubtless they will centre around public education—but will involve not merely radical changes in existing methods but also the creation of new agencies and the development of new methods. Our schools must furnish a training for the new kind of intellectual interchange and practical co-operation made possible by mechanical means of communication and media of social interaction. They must also prepare pupils to avail themselves of the new opportunities for aesthetic culture and enjoyment created by radio and sound-film. Provision on a national scale must be made for the vocational guidance and training of youth, for as Graham Wallas has said, "Men must have greater liking for the work

¹³Orton, Wm.: "Culture and *Laissez Faire*", *Atlantic Monthly*, Vol. 155, No. 6, June 1935, pp. 749-750.

they do", if they are engaged voluntarily, or care to integrate their activities with those of fellow-citizens, in a co-operative national life. Most important of all for the end we have in mind, educational processes can no longer be permitted to cease with childhood and youth, the "school age", but must continue through the life of the citizen. Adult education is perhaps the most promising social movement of our time.

THE COMPARATIVE METHOD IN PHILOSOPHY

R. C. LODGE

HUMAN knowledge is the product of two factors, sensation and intelligence. From sensation we derive the ultimate content of experience, its elementary qualities, its reds and blues, louds and softs, roughs, smooths, and the rest. These are not invented or originated by us, but are pure discoveries, sought after by us with interest, as gifts from the hand of nature which we may learn to use wisely and with discrimination. From the intellect with its spontaneous demand for unity, order, and system, we derive the formal patterns of logic and mathematics, in terms of which we seek to compare, distinguish, and arrange the sensory content of experience in such elementary relationships as apart or together, before or after, larger or smaller, more or less intense, to the right or to the left of, etc.

These two factors are not found in complete isolation from one another, separated as if with a hatchet. In the simplest sensory experience there is at least a minimum of inference, as when we "separate" and "contrast" red and blue and "identify" this or that quality as belonging to the visual or auditory "system". So, too, intellectual elaboration occurs only on the occasion of some stimulus which is sensory in origin and in its associations. Yet, since they differ in function, the one factor being essentially receptive and the other essentially originative, it is convenient as well as usual to regard them as distinct.

While both are present in concrete knowing, each of these factors shows a considerable range of variation. At the one extreme it is possible for the sensory factor so to predominate as completely to overshadow the presence of intellectual factors. Many men, many women, and many children live almost entirely at the sensory level. They react to each stimulus when and as it occurs. In between whiles they simply lapse. They do not look before and after and construct for

themselves a closely-knit tissue of plans and ideals. They show no trace of central organization and control, but live on the surface, adrift and at the mercy of each wind that blows. At the other extreme it is possible for the intelligence so to predominate as to construct, even out of narrow and unpromising sensory materials, a whole world of beauty and light. Examples are furnished by Helen Keller, the Brontë sisters and Jane Austen, and in philosophy by such men as Kant and F. H. Bradley.

In such cases a very slight degree of sensory stimulation proves sufficient to awaken into activity the full life of the mind. Abstractions seem almost to clothe themselves with flesh and blood, and in such minds become more concrete and richly significant than the thoughts of lesser intelligences, even when their sensory equipment and sensory environment have been more varied and more complete.

Sensory experience even at its best is inadequate. It is fragmentary and needs piecing together. But interpretation, where the unifying power of the mind is well developed, can do wonders; and in piecing out and extending the evidence of the senses there is an art which such minds find highly satisfying. The poets, who have carried this art to a high pitch of excellence, do not hesitate to refer to "the poet's dream, the consecration, the light that never was on sea or land," and to acclaim their minds as "kingdoms" in which they find a multiplicity of satisfactions, transcending in bliss the earthly joys assigned to man by nature and nature's God.

In thus piecing out and interpreting the messages suggested by the functioning of our sensory apparatus, we go beyond the immediate evidence. Our intelligence infers more than we can surely verify. It was Descartes who noticed that when he supposed that men were passing in the street below, on the evidence of the cloaks and hats he saw, a sceptic might well question his conclusion. The mind was accepting more than met the eye. It is the same, though to a varying extent, with every judgment we make. Nine-tenths of our knowledge is based upon indirect evidence, on hearsay accounts or purely

informal inferences in which the amount of direct experience may be almost nil.

In courts of law we are required to relate the facts, and to keep our inferences to ourselves. But we soon realize that our most cherished memory-judgments are largely conjectural constructions, and that the simplest sensations contain much which is not sensed but imputed. In judging that "this is red", we distinguish the "this" from the general field of experience, and the "red" from the general field of standardized colours; and we partially identify the "this" and the "red" in a mental operation which selects and holds them before the mind for comparison and partial unification. That the elements thus contributed by the intelligence go beyond the sensory evidence, becomes plain when we consider the effect of suggestion and the margin of error which infects even simple judgments.

Interpretation going beyond the evidence, however, while usually regarded as formally invalid, is not necessarily either misleading or factually false. When one of the premises is imperfect, or even when both are false, it is sometimes possible, as Aristotle observed long ago, to reach conclusions which are factually true. But when all the premises are sound, it is both possible and helpful to expand the significance of their inter-implications in ways which leave the starting point far behind. To construct, from a given arc, the rest of the circle is universally regarded as legitimate. Many of the "inductive" conclusions of modern science are of this character.

Frequently, however, the datum is too fragmentary for us to decide which of two or more hypothetical completions is preferable. Alternative explanations may seem equally possible and equally legitimate. Readers of cuneiform inscriptions are well aware that translators are often at a loss to decide which of two possible interpretations of some symbol is intended; and it makes quite a difference which we adopt. So too from a given fragment of a curve it may prove impossible to determine in practice whether it should be continued as a circle, spiral, parabola, or ellipse. In such cases, where the

inferential construction plainly goes beyond the resources of exclusive verification, our interpretation is said to be "speculative". Such interpretations may be both helpful in practice and fruitful in theory. They may suggest new lines of research or new methods of coördinating fields of knowledge regarded as already established. But because they cannot be proved, i.e., because alternative interpretations are equally possible on the evidence, they are regarded as speculative.

Among interpretations regarded as essentially speculative, philosophy has long been ranked. None of its "-isms" are exclusively verifiable. As interpretations going beyond the direct but fragmentary evidence, they are often suggestive, helpful both in practice and in theory. But as opposed interpretations, systems of thought based upon principles logically incompatible with one another, although each seems capable of explaining in its own way the experiences which it attempts to piece out and complete, they cannot possibly all be true; and it is quite possible that all such alternative -isms are, to an undetermined degree, fallacious.

Faced with this situation, what value are we to ascribe to philosophical speculation? At the one extreme we find many who denounce it as fantastic and useless dreaming, the product of a too-poetic impulse, but divorced from the poet's music. Such men sternly discountenance its sterile theorizings and devote themselves to the fruitful realm of fact, fact guaranteed in our laboratories and by our senses. Views like these are not confined to Herbert Spencer and his generation of positivists, but have spread so widely that, at the present day, they have become almost an integral part of educated common sense.

On the other hand, we find many who suggest that, since common sense and science are ringed about with an indeterminate fringe of assumptions which are speculative, and since the possibility of alternative interpretations cannot by closing our eyes be banished from human experience, it might be well to investigate what the philosophers, who have pushed their inquiries into this speculative fringe further than the rest, have to report. Take the extreme case, where speculation

is pursued apart from factual verification: where philosophy in the name of "pure" reason seeks to explore an infinity of "possible" worlds, all equally conceivable. Even here it may be that some of the alternatives discovered will prove useful in practice. They may suggest new ways of interpreting old facts. They may indicate new angles of approach to the space-time world we think we know. In any case, they keep the mind open to new hypotheses. Values like these certainly attach to the work of men like Leibniz or Whitehead, whose speculations might otherwise be regarded as entirely transcending in outlook and method the field of usefulness and practical value.

The considered value-judgment of educated humanity tends, in fact, to combine these two positions. Speculation, in so far as it is mere speculation, inapplicable to the world in which we live, is universally denounced as barren, as pure waste of the resources of the intellect. But in so far as the study of alternative hypotheses, none exclusively demonstrable as certain, assists us in our human venture—either objectively, in understanding the world of nature, or subjectively, in keeping alive and active the resources of the spirit,—we appreciate its value and indeed regard its aid as indispensable. Philosophies, then, have value precisely in proportion to their applicability. They can be tested in relation to the worlds of science, conduct, religion, and art; and in such applications their value is partly objective and partly subjective.

How many philosophical alternatives are there? Theoretically it looks as though the number of -isms might be infinite. For on what principle can philosophizing be kept within bounds? You cannot keep a good mind down. Once you grant to thought its charter of freedom and open wide the door to unverified speculation, your power of control is gone. You have summoned spirits from the vasty deep, and what their response will be, who can tell? Those who occupy positions of importance in the philosophic world receive each year, from utterly unknown writers, sketches and outlines of systems which may be arbitrary, one-sided, and fantastic, but

are always ingenious and, in many particulars, new. Most of these are unpublished. Many are unpublishable. But the stream of novel combinations of selected experiences and untested hypotheses continues to flow freely and with undiminished breadth.

The history of such speculation, however, reassures us. There is no fear of infinity. On the contrary. In practice the choice of alternatives is narrowly limited. History indicates that philosophical theorizings, in so far as they represent something more than methodized claims to think for themselves, flow in one of three well-defined channels. Two of these have behind them the vested interests of many centuries of thought. Let us glance at them.

(1) In trying to understand and control experience, there is a natural tendency to face outwards: to concentrate attention upon the world in which we live, to treat its undoubted reality as something in itself, and to systematize what we observe and discover into a science and a philosophy which tries to be wholly objective. We are really bifurcating experience, dividing it into (a) the spectator and (b) his picture, a picture which he contemplates and perhaps constructs. As we are ourselves in the position of the spectator and are facing entirely outwards, toward the picture, we easily forget our own creative and contemplative attitude. We lose ourselves in the object, treating the picture as the whole thing, the complete reality. This objective kind of speculation is known as "realism". It takes many forms, from a simple acceptance of our sensory judgments as final courts of appeal, to a more sophisticated doubt of anything but the latest and most intricate interpretations of our authorities in the field of mathematical physics. But in proportion as we accept objective considerations as final, our thinking is of the type known as "realist".

When, after a while, our attention is drawn to the spectator and our own selves, we adopt an extremely simple device. We put the spectator, our own selves, bodily and mentally into the picture, and interpret the experience we have bifurcated,

solely in terms of the objective aspect. We speak of the "impartial" or "impersonal" spectator. We depersonalize him, in fact, and objectify him in all respects, including his subjective feelings, interests and powers. From this standpoint we ourselves, together with all our thoughts, words, and deeds, are parts of a single all-embracing tissue of events, the kind of events studied by physicists. Biography, history, sociology, and psychology are definitively physical sciences. As to the arts, it is physical nature, with its inflexible laws, which impresses itself upon our plastic nervous systems, gives us our colours and tones, our instruments of amplification and our medium of expression, our possibilities and our limitations. In the end it is physical nature which paints our pictures and writes our poetry and music, in ways which are its own.

(2) On the other hand, while bifurcating experience in the same place, it is perfectly possible to face inwards rather than outwards, and to regard mind and the self as central and dominant. To many of us it seems entirely natural to believe that we are ourselves the creators and constructors of our world, the world of ideas and plans whose tissue constitutes the environment in which we live and are at home. This tissue of plans is held together and endowed with intelligible structure by the mind's demand for unity, order, and system. The patterns of logic and mathematics in terms of which we try to arrange and control our biological and social action-systems are felt to be complicated self-projections. That is, they are projections of the mind's inherent unity, as it seeks everywhere its own counterpart; envisaging the world as a kind of self, as a living world, a rational world, a spiritual world, the living reflex of the creative self, the self which creates always in its own image.

From this standpoint life is something like playing both hands at chess or all four hands at bridge. It is a kind of game whose rules are mind-made, and whose goals are pursued always in accordance with the rules. The novelist creates all the characters in his book, and the interactivity of these *dramatis personae* is a complex mirror-image expressing

fundamentally the nature and life of his own creative mind. So each one of us lives in a world of thoughts and ideas which mean something to us because we have accepted them as our own. We have talked them over reflectively and taken them up into our system of hopes and plans, projecting our whole selves into them. A mother, for instance, takes up her children into her own life, as she feeds, clothes, and watches over them, and indeed almost breathes for them. So entirely has she projected her own self into them, that from their behaviour we can infer her nature and interests. There are times when, observing our own behaviour, we catch ourselves wondering if this is really our own self, or some parent or friend with whom our lives have become so intimately intertwined that it is not easy to tell where the one self leaves off and the other begins. So, too, when we sit in a man's study and look over his books, his pipes, and his sport trophies, we feel that we see into his inner mind. We project ourselves into his plans, and interpret what we discover in terms of self-feeling.

This kind of view has a great variety of forms, from those which regard us as living in a world of phenomena, sensory appearances of a reality which remains a mere x , unknown save for its appearances, to those which regard us as living in a kind of dream-world, entirely and without exception mind-made, whether that mind is individual and human, or universal and divine. This way of interpreting experience primarily in terms of the self or creative spirit, with "the world" treated as the plans and ideas which the spirit contemplates, or, it may be, creates, is known as "idealism". Realism interprets experience as a kind of being, idealism as a kind of knowing.

(3) It is easy to see that, as indicated, both realism and idealism are one-sided. Experience has been split up into two aspects, and then the whole has been interpreted exclusively in terms of one of its aspects. It is all nature, or all mind. The extreme forms of these views have always invited criticism. To interpret the whole in terms of one of its parts, whichever part we take as fundamental, can hardly be sound. Obviously the only sound method is to interpret the whole

in terms of the whole. Consequently a third type of philosophy has tended to develop: a philosophy which tries to be true to experience, and to avoid all abstract and one-sided theorizings. This attempt at interpretation has taken many forms. One of the best known is called "pragmatism".

Pragmatism is a doctrine whose roots are both ancient and modern. In the ancient world, it was represented in the movement associated with the name of Protagoras, who regarded man with his empirical desires and action-tendencies as the centre of his world and the measure of all things. In the Hellenic city-state, Protagoras could point to the typical citizens, living out the characteristically human life-cycle, biological and social, with the arts, sciences, and other human institutions as by-products of that life-cycle. In the modern world, the doctrine is associated with developments of Kant's theory of the priority of the practical over the speculative reason. According to these developments, man is not, as realists think he ought to be, an impartial spectator of external truths, learning to contemplate events and laws which he cannot change, and to adjust his nature to theirs, enlarging his self by swamping all its natural and instinctive wants, with what resignation and satisfaction he can muster for the purpose. On the contrary. Man is fundamentally a biological and social organism, interacting with its environment and taking as well as giving.

So, too, man is not, as the idealists suppose, either a pilgrim in quest of eternity, devoting his life to learning how to die, or a grand monarch in a hall of mirrors, seeing in the empirical world nothing but reflections of his noumenal self, or playing both hands in some transcendental game of cribbage or draughts. On the contrary. He is in for a real fight with a real environment, as he adapts its behaviour to his own uses and transforms its surface, at any rate, in accordance with his desires and in proportion to his power and strength. Truth, Beauty, Goodness, and other "absolute" ideals which it passes the powers of man to realize in practice, are will o' the wisps, idle and mischievous dreamings. For these, human beings

should substitute realizable, empirical, day-to-day plannings. It is not the world of physicists and mathematicians, with its overly simplified outlines and abstract rigidity, but the concrete world of psychologists and sociologists, in which pragmatists live and are at home. Science, art, and other human institutions all have a place in life. But that place is instrumental to the main purpose of life; and that purpose is, not to be but to do, not to contemplate but to live.

In some of its recent forms, pragmatism is accordingly known as "instrumentalism", and its representatives are primarily interested neither in being nor in knowing, but in acting and especially in controlling, controlling nature and directing human action to successful issues, issues judged satisfactory in terms of natural human feeling, both biological and social.

* * *

Here, then, we have three typical directions in which philosophers move when they attempt to master experience: the realist, the idealist, and the pragmatist direction. In the nature of the case, these directions are divergent. To take one pathway, of itself precludes taking either of the others. If any one pathway is right, then the others are certainly wrong.

So much is clear. But *is* any pathway right, and, if so, *which*? How are we to tell? If we consult representative writers of any one school,¹ we are informed, impressively and no doubt sincerely, that *that* school is at least on the right track. We are informed that its representatives have succeeded in developing a method which enables them to face with confidence experience and its problems. They are equipped to tackle any and all problems of the modern world, both in theory and in practice. Opposing methods, we are further informed, while they may have some subjective satisfactions to their credit, and some apparent successes in dealing with a few detailed problems, are fundamentally mistaken. In the

¹Consult e.g., *The New Realism and Critical Realism, Personal Idealism and Essays in Honor of James Edwin Creighton*, and *Creative Intelligence*.

end such methods are incapable in principle of dealing with present-day problems in the way which present-day experience requires.

To make the position quite plain, advocates of each view, while devoting their primary energies to recommending their own analyses, spend a part of their time in what we may call "comparative philosophy". That is to say, they compare and contrast the working of all three methods, so as to distinguish the characteristic values, both theoretical and practical, of each; and, as a rule, they utilize this comparison so as to enhance by contrast and criticism the superior values of whichever school they accept as "right".

Where the differences express, in the end, not merely divergent temperaments but divergent lives, ways of living whose whole background and outlook are diverse, there is no cheap and easy method of deciding between such schools. Each declares with equal sincerity and regard for truth that its own view is and must be accepted as the best. Judged in the light of experience as a whole, each works well. It helps its adherents to speak, to think, and to act for the best. They cannot believe that other principles can be as sound and helpful. An idealist may be polite to a realist or to a pragmatist. But he really believes, with every fibre of his being, that their views are inadequate. And they feel, with every fibre of *their* being, exactly the same about *him*. They feel that he is mistaken, biased, possibly incompetent or sophistical, or even mildly insane. In the end each representative of each school feels "I am right, and these other fellows are wrong." However their differences from him are to be explained, whether as some wrong turning taken in their early youth, some temperamental twist, or something more sinister, in the end he feels that they are simply "wrong". We come to the parting of the ways, and then—we part company.

In the history of philosophic thinking, the above has been the regular procedure. Each thinker follows his own path and, in so far as he indulges in "comparative philosophy", he does so chiefly in order to bolster up his own sense of rightness.

We all learn to do this, and where does it lead us? Does it really tell us which pathway is right? It does not. Can we, by consulting anyone's inner conviction of rightness, arrive at a satisfactory conclusion as to which is right? We cannot. The thing is impossible.

Is there any way in which this method could be improved? I think there is one way and one way only: namely, by completely reversing the usual procedure. I suggest that we should give to comparative philosophy, sincerely and simply, the place of chief importance. In scientific investigation we all realize the value of a multiplicity of working hypotheses, and the importance of keeping our minds open to the possibility of alternative explanations. I suggest that in philosophy we might well do the same. In studying any problem as philosophers, I suggest that we should approach it (1) from the realist, (2) from the idealist, and (3) from the pragmatist standpoint, so as to view it from all three angles.² Not that these views can, by some dialectical hocus-pocus, be combined into a single picture. They cannot. As theoretical alternatives each definitely excludes the other two. But the point is this:—

(1) If we adopt the realist standpoint and try to do justice to the facts of experience, we must admit that the philosophic situation, objectively regarded, is complex. It needs to be analysed, and analysed in such a way as to bring out the elements actually present. Human beings are not all of one type. They are not all realists, or all idealists, or all pragmatists. We find all three types, as well as many confused and inconsistent attempts at speculation which have not yet won their way to clearness in regard to their own backgrounds,

²I suggest, e.g., that we could introduce clarity into the confused mass of logical doctrines if we separated these out into three groups, classifying them in accordance with their predominant bias, and thus constructed (1) a realist logic, (2) an idealist logic, and (3) a pragmatist logic. I suggest that we should meet with similar success if we analysed the confused teachings and beliefs in ethics, in psychology, and indeed in all other branches of philosophical inquiry and in the theory and practice of our lives. Cf. *The Questioning Mind* (J. M. Dent, E. P. Dutton, 1937) and *Philosophy of Education* (Harper, 1937), in which I have attempted to carry out this suggestion in the fields of general philosophy and of education, respectively.

methods, and outlooks. We find great masses of opinion, both theoretical and practical, which cannot, fairly and without Procrustean violence, be judged from a single point of view. Any realist knows that to interpret his views as immature idealism or overly abstract pragmatism is a distortion. And idealists and pragmatists feel exactly the same about the realist "demonstration" of their "implicit but misunderstood realism". To explain a three-type situation in terms of a one-type hypothesis, is to over-simplify, to misrepresent at least two-thirds of the phenomena, and to give up the problem of really understanding the actual facts. From the realist standpoint, then, if we are to be objective and complete, what we need is a working hypothesis which takes into consideration all the facts: namely, a thorough-going comparative philosophy.

(2) If we adopt the idealist standpoint, for which mind or the self is central, can we seriously maintain that everyone who differs from ourselves is incompetent, insincere, or insane? Can we deliberately choose to withdraw from intellectual intercourse with them, and seek philosophic nutriment exclusively from the pasture-land of our own inner convictions? Obviously the idea is absurd. Idealists do not regard themselves as dictators in the world of thought. They do not feel that others, either, should be encouraged to believe themselves monarchs of all they survey. They do not believe that philosophy is entirely arbitrary and anarchical. On the contrary. Idealists regard philosophy as a co-operative enterprise, in which we all play our parts, even when we differ, by co-operating, by considering sympathetically alternative and competing explanations. In a word, from the idealist standpoint the philosophic venture is fundamentally and in essence comparative.

Yet again from the idealist standpoint: to withdraw into the inner recesses of our own minds is narrow, self-stultifying. What does he know of realism, who only realism knows? How does he know even that he is keeping his realism pure? Most of us have tendencies toward idealism and pragmatism

as well. If the home education has been too narrow, we may easily, when we take our walks abroad, find ourselves consorting with doubtful characters in the world of thought. Let us take a well-known example. Are not some of the doctrines of leaders of the empiricist school tinged with transcendentalism? In the case of older empiricists like Locke or Hume or Mill, we can see for ourselves that they are. But look nearer home. William James certainly regarded himself as a "radical empiricist". But would present-day pragmatists maintain, at least when among themselves, that James never deviates into transcendentalism, never, absolutely never? "Well, hardly ever." Quite so. And we ourselves? If we want to be sure of our realism (or idealism or pragmatism), we must make a thorough study of the alternatives, in all their chief ramifications. That is to say, from the idealist standpoint, if we seek to be true to our own *nîsus* and be truly the selves we have it in us to be, we must first be thorough-going comparative philosophers.

(3) If, finally, we adopt the pragmatist standpoint: we all know that to stick to one narrow pathway, however straight, involves missing a great deal which is worth while. Each school has succeeded in winning certain insights which are of universal value, and which it would be a mistake to lose. During the nineteenth century, for instance, many insights of enduring value were achieved by idealists. And while it may be argued that these were achieved in spite of the idealist techniques employed, non-idealists would be reluctant to cast aside the insights, just because of their distaste for the transcendentalism, the dialectical method, or whatever it is in idealist procedure to which they object. In the same way, if you ask idealists whether they would prefer the recent movements in philosophy (neo-realism and pragmatism) not to have taken place—so that idealism might have continued without rivals: the answer is, No. Much has been achieved by and through the competition of these schools which would probably have remained undiscovered in an idealist paradise entirely without serpents. So too in our philosophical con-

ventions: while the outlook and method of some of the contributors may seem to many of us mistaken, it cannot be denied that much of value both in stimulation and in achievement of insight is poured into the common stock. These values it would be foolish to reject on doctrinaire grounds.

Whether, then, as realists we seek to face and take into consideration the whole of the facts; or whether, as idealists we are interested in spiritual development away from narrowness and toward all-inclusive understanding; or whether, as pragmatists we are determined to throw away neither techniques nor achievements which can be of use to us: we conclude that, for theoretical philosophers, a many-sided comparative study is of greater importance than adherence to a single view; and we have a feeling that inner convictions as to the essential rightness of any single view may well be regarded with suspicion.

But here we are greeted by a chorus of objections raised by the adherents of single views. Yes, it will be said: as theoretical philosophers, impartial observers withdrawing from life into secluded laboratories in order to investigate, to prepare questions and tabulate responses, we very properly behave like scientists. We keep before us, as you suggest, a multiplicity of hypotheses, and refuse to make up our minds before the evidence is all in. But—and this is a big but—we are not, fundamentally and in essence, mere academics sheltering behind ivy-covered college walls, dispassionate and timeless observers of the phenomena of life as it surges past, leaving us untouched. On the contrary. We are human beings, space-time phenomena hurried willy-nilly *in medias res*, part of the surge of modern life itself. To live we have to act; and to act we have to decide. We cannot wait in idle contemplation until the evidence is all in.

And further: once we have decided, we have to abide by our decision. In theoretical contemplation we can suspend judgment and shilly-shally as long as we like. We can flirt with realism, with idealism, and with pragmatism. We can go as far as we like with each, and yet stand committed to

none of them. In the realms of pure speculation we are floating adjectives, attached to nothing. But when it comes to action, all is different. We cease to float and shilly-shally. We take a substantial stand. If we act as realists, that excludes our acting as idealists or as pragmatists; and the exclusion is final. In life and action we express ourselves once and for all. We have to make up our minds to be definite and specific; and we have to take the consequences.

If, then, life and action are more important than decisionless contemplation, philosophy, if it is to express a man's full self and be something more than a colourless prelude to life, cannot possibly remain predominantly, as you suggest, "comparative". Just as colour cannot be mere "colour", but in order to be coloured at all must be specific, shot through with redness, greenness, blueness, or yellowness: so philosophy cannot be kept perpetually in suspension. To suspend judgment is not to philosophize, but to refuse to philosophize. To philosophize, we must make up our minds to be specific; to be primarily realists, or idealists, or pragmatists. A little comparison of alternatives is all right in its place. But to give it the first place, and definitely to discourage specific decision, as you suggest, would militate against full-blooded philosophy. It would weaken us for life and turn us into fence-sitters, sceptics unable to make a man's deliberate choice. We will have none of it.

To the chorus of objections thus indicated, I reply as follows: The objectors make two assumptions, both of which are questionable. They assume (1) that reflection and action are opposed; that in order to reflect, we suspend action; and in order to act, we suspend thought. They assume further (2) that action is so specific that it must be either realist or idealist or pragmatist, as three mutually exclusive alternatives covering the whole field: so that a philosopher who remained "comparative" could not, in the end, act at all. Let us consider these assumptions more closely.

(1) Are thought and action necessarily opposed, so that the one has to end before the other can begin? Not necessarily.

Thought *can* be without influence upon events. Action *can* be devoid of spiritual significance. But the ideal is, surely, complete interpenetration, so that spiritual activity will be of significance for the whole man. All philosophic schools teach that our life and action should be thoughtful and reflective, and that our decisions should be based upon careful consideration of alternatives. So far, then, as the objections rest upon this assumption, they will have to be withdrawn.

(2) Is it true that the space-time actions of a realist, an idealist, and a pragmatist are specifically distinct, and that a comparative philosopher, as such, cannot really act at all in the space-time world? We all know that representatives of all three schools, and comparative philosophers, too, may and do drive their cars along the same roads to the same philosophy convention. Once arrived, they secure accommodation in the same hotel and meet for discussion in the same auditorium. They may even use the same words, as when all insist that "philosophy should be less abstract and more concrete", or when all vote for the same executive and support the same politics. The business over, all hurry away in the same manner.

It is true that the motives behind their purchase and use of cars, their attendance at conventions, and the rest, may be diverse. They may even understand the self-same words in three different senses. But—and this is the point—as far as their space-time actions are concerned, it is difficult if not impossible to differentiate a philosopher of one school from philosophers of any other school. A comparative philosopher, for instance, can ride in the same car as a realist, an idealist, and a pragmatist, in perfect amiability. In their techniques for interpreting events, the three specific philosophers, while disagreeing with one another, may agree to differ from the comparative philosopher. But as to the events themselves, and the space-time reactions demanded by those events, there may be no difference. To all four a red light means Stop and a green light means Go. The comparative philosopher may even, with general consent, take his turn at driving the car. As far,

then, as this second assumption is concerned, the objection to comparative philosophy will have to be withdrawn.

It remains true that there is such a thing as excessive pre-occupation with theory, associated with unhandiness in dealing with the world of practice. But the idealist at any rate should hesitate to cast the first stone. "Professorial absentmindedness" is not specific enough to be associated exclusively with comparative philosophers. Are not even realists and pragmatists (tell it gently) occasionally all-too-human? The objections thus being withdrawn, I reaffirm that philosophers of whatever school are really interested in full investigation of the facts, in complete development of the self, and in securing all values achieved by thought, to whatever school the thinker who has achieved them may belong. In a word, all philosophers, as such, have a vital interest in comparative philosophy.

* * *

We now pass to consider two further points:—(1) Just what is the relation of comparative philosophy to the historical method which at present holds the field? (2) How far is comparative philosophy, with its attitude of scepticism toward all specific types of philosophizing, in danger of becoming anti-philosophical? Let us consider these in turn.

(1) What has been called "the historical method" has seemed to many writers the only proper way of dealing with the undoubted fact that philosophers differ from one another. Many historians of philosophy, especially if they adopt the position of dispassionate and impartial observers, present us with a succession of "systems", each duly placed in its historical setting and regarded as an individual attempt at synthesis of the space-time phenomena falling within the purview of this or that thinker. Each thinker is treated as a spokesman of his age and nation, and indeed as a highly individual spokesman. The chief problem, as the historian sees it, is to resolve each system into its elements and then to consider each of the elements in relation to its space-time conditions. In a word, what the

philosopher has synthesized, the historian analyses. He thus spreads before us a number of *dissecta membra*, each duly labelled, for further objective study. These are the factors in the situation to be explained. They persist in their own nature and objective interrelations. Like the stars in their courses, they have and keep their own place in the flow of events. They are definite and factual. Their precise natures and functions can be determined and measured with scientific accuracy. Here the historian is upon sure ground.

But how to explain the philosopher's *philosophy*, his efforts at creating an interpretation of these objective conditions? Here the historian divides his task. (a) Regarding philosophy, like poetry and literature generally, as an art, he proceeds with great patience to determine the precise effects upon the philosopher, of each of the historical factors whose nature and function in the flow of events he has already determined. Forces political, economic, psychological, or even purely physical, become reflected in the philosopher's mind in the form of opinions and ideas; and it is possible to trace their influence upon the source of the philosopher's thought.

For instance, a period of prolonged peace and prosperity, as during the nineteenth century, during which there were great and rapid advances in industry, in science, and in general comfort, tends to bring about a great wave of idealism. We see this in poetry and in art generally, and thus are not surprised to note the same phenomenon in philosophy. Or again in our own time: the disillusionment produced by the Great War, by the conspicuous failure of the League of Nations to realize its hopes, and by the economic, political, and even military difficulties in which we are becoming more and more involved, produce a depression which has its echoes and reverberations in art, in poetry, and in philosophy. Idealism becomes regarded as an idle and mischievous dream. It is out of date, out of touch with present-day fact. We are now in the middle of a great wave of realism and pragmatism, and historians explain this as a direct consequence of conditions which we all recognize as likely to persist for some time.

Here too the historian is upon his own ground. Given a philosophic or poetic mind to consider, it is quite within a historian's province to determine the forces which may have influenced its course. But there remains the second part of the historian's task, namely, (b) to explain how such forces take the form of philosophy or poetry. And here the historian is no longer upon *terra firma*.

The usual procedure of the objective-minded historian is to treat the philosopher's synthesis as subjective, epiphenomenal, unscientific moonshine. The history of philosophy thus becomes a record of transitory "systems", each rather arbitrarily unified by its creator. The whole is a kind of mental backwash in the flow of events, fanciful, suggestive, possibly even amusing. But none of it can be taken seriously. Many scientifically-minded writers really feel that such activities as we find in art, poetry, and philosophy represent a squandering in subjective directions, of natural resources which might conceivably have been devoted to the purposes of objective science—which, as they see it, are alone sure and of permanent value.

It is felt that a definitive synthesis is, in the nature of the case, impossible; and the historian accordingly draws attention to the flaws and inadequacies which characterize each successive effort. The history of philosophy is the history of one failure after another. The philosophers are thus put by the historian in their proper places; and one wonders why they do not learn to give up their obviously futile attempts at philosophical synthesis, and devote their energies to achieving positive goals more in proportion to human powers.

So much for the historical method, which holds the field. How does the comparative philosopher relate himself to this position? In the first place he directs attention to the realist bias of advocates of this method. Their views represent the position of investigators who treat their subject objectively and by the methods of natural scientists. They explicitly confine themselves to tracing the factual interrelations of space-time phenomena. Such investigators are able to take into account only what is historical, objective and factual. Philoso-

phy itself, like poetry, simply falls outside what such a method can take into account. That is why it is denounced as illusory and epiphenomenal, "the effect of too much moonshine on an empty stomach", and the like. From the realist point of view, such a conclusion is in accordance with the facts.

In the second place, the comparative philosopher directs attention to the idealist interpretation of the same phenomena. Idealists completely reverse the realist picture. As *they* see it, space-time conditions and factors constitute a stimulus or problem, a starting-point. Their function is to awaken into activity the life of the mind. But that life, once thoroughly awakened, proceeds of itself and in accordance with its own laws. It does not conform to an independent, externally existent reality, but evolves in accordance with its own immanent dialectic, "conversing with itself", i.e., moving in its own world of definitions, postulated hypotheses, and their systematically deduced consequences, realizing their maximal meaning-potentialities.

Once awakened, the mind, in accordance with its inherent demand for unity, order, and system, creates an ideal dialectic, on the one side logical, and on the other mathematical, geometrical, spatial. With these weapons forged by the spirit, it proceeds to set in order its world, creating an art, a science, and a politics in its own image. The "objective laws" on which the realist lays so much stress, do not exist in their own right, but represent especially applied philosophy. They illustrate the work of the mind as it constructs mathematical physics, i.e., as it explores the consequences of its hypothesis of systematic unity applied to the concept of a three-dimensional spatial continuum. What makes these laws "objective" or valid for human experience, is not their conformity to alleged brute fact. This would leave them merely fragmentary, particular, and contingent. What makes them "laws" is their systematic character, their universality and necessity, their logical or ideal character. The mind accepts them as "valid" because and in so far as they express the nature, not of something arbitrary and external, but of the mind itself. By the

idealist the world is regarded as a kind of self, the mirror-image or projected counterpart of the living mind; and science is regarded as the tissue of problems raised and answered by the mind as it grasps and sets in order its own experience, transmuting the actual into something more nearly ideal.

What does the idealist make of the history of philosophy? He first distinguishes its two sides. As history, it is not philosophy; and as philosophy, it transcends history. Empirically speaking, it is of course possible (a) to investigate the space-time activities of philosophers interacting with their physical environment. You can follow them around with your notebook, from the cradle to school and college, and from college to the writing-desk in their study. You can observe everything they say and do, and can relate it to definite times and places, much as the realist does. You can also observe how far and with what effects in the space-time world they put their theories into practice: how Plato, for instance, makes of his work a pedagogic success at Athens, and a political failure at Syracuse.

But all this historical chit-chat is the merest prelude to the study of philosophy itself. It is only when the space-time movements cease, and Plato the Athenian disappears into his own dialectic, that (b) philosophy proper comes into being. The philosopher's vision transcends space and time. As he surveys the realms of the spirit from end to end, time stands still and space becomes the merest metaphor. There is nothing physical for the historian to note in his book. He has traced the material steps leading up to the spiritual insight which gives us art or science or poetry or philosophy. But the last step of all, which crosses over from the world of matter into the life of the spirit, is invisible, inaudible, intangible, ineffable. Poetry, science, and philosophy have no history. Truth is timeless. The philosopher has passed from time into eternity; and where eternity begins, history leaves off.

Thought has a life and movement of its own. But it is not a life and movement which you can measure with physical instruments. It can move from premises to conclusions, from

conclusions to premises; from insight to contemplation, from contemplation to insight. It can start anywhere and move anywhere. Its life is everywhere and everywhen. The philosopher, once he has let himself go, is lost to the space-time world. He is at home in the spaceless kingdoms of the spirit, where the historian with his space-time notebook cannot follow.

There is thus no possible space-time history of philosophy. But since philosophy has a life and movement of its own, the man who can project himself into its life and movements, re-living in his own person its implications and insights, is in a position to construct its inner history. This the idealist does. The inner history of philosophy is philosophy rather than anything which would ordinarily be called "history". The idealist does not leave the realm of pure meaning. He simply lives with its life and grows with its growth, as he thinks through the implicational possibilities inherent in its development. His "transcendental history" is in fact indistinguishable from "transcendental logic" or dialectic.

Starting with the conception of "being", the dialectician, by a process of imaginative self-projection, is able to think out its full meaning and expand its various implications, following each path of inferential discovery in order to see where it leads. It is possible to consider "being" in its material aspects, as fundamentally "water" or "air" or "fire", with their various transformations. It is possible to consider "being" in its more formal aspect, as identical with "existence". In this formal consideration, "being" is inevitably set over against its opposite, "non-being" or "nothing"; and out of this contrast there emerge two alternative ways of thought, (1) blank opposition and (2) passage from being into non-being, or from non-being into being, a passage we think of as "becoming". It is possible, further, to observe that being may be considered either (a) in itself or (b) in relation to the mind which thinks it, i.e., as a thinkable. A vast range of further vistas, new pathways inviting investigation, now appears before the vision of the dialectical explorer, who greets each in turn with his thrilled "Eureka!"

These various steps which the dialectician in the process of pure thought can thus follow for himself, actually coincide in principle with the steps in thought historically taken by the successive philosophic torchbearers. Thales, regarding "being" as fundamentally "water", is followed by Anaximenes, who thought out the alternative hypothesis of "air", and Heraclitus, who conceived the further hypothesis of "fire". Anaximander thought that the conception of "being" should be something more fundamental than such specific forms as water, air, or fire—doubtless something from which these forms originated. Parmenides approached the formal conception of being as contrasted with non-being, and thought of both as related to the thinking mind. And so on and so forth.

It is by projecting his dialectical constructiveness into the thinking of successive philosophers and realizing, from the inside, how each is following through consequences implicit in his predecessors' systems, that the idealist constructs his ideal or transcendental history of philosophy, as a dialectical tissue of self-evolving thought.

His pure logic, and the actual facts, do not quite correspond. This is because the successive philosophers were not pure philosophers. They were also human beings, swayed at times by considerations other than those of pure logic. On the whole, however, the idealist feels that his construction of an ideal or pure history of the life and movement of thought throws more light upon the phenomena furnished by the work of the successive leaders in the history of philosophy, i.e., comes nearer to formulating the living truth, than do the external, space-time investigations pursued by the realist-minded historian.

In the third place, the comparative philosopher directs attention to the pragmatist position. The pragmatist rejects the realist account as too systematic, too deterministic, too much a matter of abstract physics, to be true to life. He rejects the idealist account of the transcendental self-evolution of Mind as non-empirical and too remote from human experience. Experience, as he sees it, is biological and social, concrete and experimental. Modern men face problems. They do not

contemplate long series of past facts and academic theories arranged with textbook precision. They are parts of a forward-moving stream, and they face forwards, toward whatever problem is most pressing. This they solve practically, with whatever techniques they can bring to bear. Once solved, they let it drop, and move on to the next problem. Like progressive industrialists, they scrap the past and create the future.

Philosophy, as the pragmatist sees it, that is to say, vital philosophy as opposed to some sort of inherited scholasticism, represents the attempt of human beings to interact reflectively and wisely with concrete events so as to direct and control the issue in ways which prove satisfactory to individuals. Maximal satisfaction, biological and social, is the goal. Experimentation, novel, piecemeal, forward-looking, is the means. Education, revitalized education which turns the rising generation away from abstract academic contemplation toward the co-operative solution of present-day problems, is the programme.

With this view, what is the pragmatist attitude toward the history of philosophy? In so far as it deals with the past for its own sake, while his own interest is oriented toward the future, he tends to neglect it. Studies with a past always give way to projects with a future. In so far as he does deal with it, his interest lies chiefly in pointing out that the motives of actual philosophers have been far more biological and social, far more concrete and experimental, than realist historians and idealist dialecticians have taught.

That is to say, the pragmatist, in accordance with his own programme as an educator, deliberately selects for emphasis the pragmatist *motifs* in past philosophizings. He points out that Protagoras the humanist was the true founder of pragmatism, with Socrates, however unwittingly, an able seconder. At least, in Plato's *Theaetetus*, Socrates is represented, not only as failing to refute Protagoras' theory of truth, but as reinstating it and leaving it standing. In modern philosophy, Kant's doctrine of the priority of the practical reason, when

interpreted by pragmatist-minded students, has been responsible for directing the work of James, Schiller, and other leaders of the school into pragmatist channels. The rest of the work of past philosophers is interpreted socially, i.e., as useful or at least understandable in relation to the times in which the philosophers lived, but with a usefulness long since outworn. The pragmatist, even in his interpretation of the history of philosophy, looks not backwards but forwards, and emphasizes only what is of use for the creation of the future.

Having thus drawn attention to the characteristic work of the distinctive philosophic schools, what is the conclusion of the comparative philosopher? He hastens to recognize the merit of each. He points out that, in the present stage of knowledge, students of the history of philosophy are indebted to all three schools and cannot do without any of them. From its especial angle, each makes a positive contribution to the subject. And while each has its negative and exclusive side, with which he is unable entirely to sympathize, he sees clearly that their efforts supplement one another, and it is his business, as a comparative philosopher, to point this out.

For example: Plato and Kant have long been interpreted as idealists; and their idealism has been extremely influential in the development of philosophy. But they have also been interpreted as realists. Plato's "primordial chaos" which mind discovers and re-arranges but does not create, and Kant's "things-in-themselves" whose existence mind accepts but does not invent, lend themselves to this sort of interpretation. To interpret both as pragmatists (of a sort) is more recent. But it cannot be denied that all three interpretations have added to our knowledge. It remains to point out that Plato was a "comparative philosopher", the founder of a new school which is only now coming into its own. The dramatic presentation of conflicting theories in his *Dialogues* and the "friendly rivalry" of his students in the Academy are partly reproduced in the "symposia" of our Philosophic Associations, in which representatives of different schools compare alternative hypotheses and put each other to the question. To a certain extent

this "comparative" idea is carried out in the philosophic departments established at our larger universities. But a recognized school of "comparative philosophy" as such, which will do full justice to Plato's leadership, has not yet been established.

Finally we pass to consider (2) the question as to whether comparative philosophy is so sceptical as to be anti-philosophical. The objection would run something like this:—"Triangles are necessarily specific. They must be either equilateral or isosceles or scalene. If, in your enthusiasm for a "comparative" study of triangles, you discourage the exclusive lover of equilateral triangles, and also the single-minded student of isosceles triangles, and even the whole-hearted devotee of scalene triangles, what have you left? So too if, in your enthusiasm for comparative philosophy, you are sceptical about realism and idealism and pragmatism—on the ground that each falsifies two-thirds of the phenomena and may be entirely misleading—what have you left? Surely, nothing. Your scepticism has cut the ground from beneath your own feet. If there are only three typical forms of philosophizing, and you reject each, you have rejected philosophy itself. Your view is anti-philosophical."

To this I reply that the nature of comparative philosophy can perhaps be brought out better as follows:—If I desire to study triangularity, of course I study equilateral triangles. But I do not stop there. I also study isosceles triangles, and scalene triangles as well. I understand that the three species exclude one another. They are alternative forms which the genus takes. But none of these forms excludes the genus, to which all equally belong. To study the genus, triangularity, I have of course to study all the specific forms which it takes. Comparative study is the only proper method.

In exactly the same way, if I desire to study philosophy, and if it is true that philosophy necessarily takes one of three specific forms, I have of course to study all three. If philosophy is essentially speculative, an affair of alternative possibilities, I must study those alternative possibilities, and must not, in my enthusiasm for realism (or idealism or pragmatism)

close my eyes to alternative possibilities. In so far as any one alternative (e.g., realism) refuses to be regarded as one alternative amongst others, and claims to be in exclusive possession of the whole truth, I must be sceptical of its claims. In fact, in so far as it ceases to be sceptical about its own claims, and becomes convinced realism (or convinced idealism or convinced pragmatism), it loses its openmindedness and is really ceasing to be truly speculative and philosophical. In a word, it is precisely such one-sided philosophizing which is anti-philosophical, and not comparative philosophy, with its scepticism directed against one-sidedness. As the speculative construction of interpretations which essentially admit of alternatives, philosophy is necessarily sceptical of one-sided claims; and its proper method of study is necessarily comparative.

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Is this all? Is comparative philosophy not merely the form of philosophizing, but also its final word? Plato, especially after he had founded the Academy, was essentially a comparative philosopher, laying before his students for discussion not only the theory of ideas but also what he conceived to be its dialectical alternatives: namely, a somewhat crude and simple realism, and the ancient equivalent of what we call pragmatism. As we know, out of this comparison there emerged, in the mind of one of his students, something new; namely, the Aristotelian doctrine of empirical concrete forms. This represented a new alternative, contrasting not merely with the transcendental abstract "ideas" of the Academy, but also with the crude realism and the simple pragmatism of that day. So also it may be that out of a thorough-going sceptical comparison of present-day realism, idealism, and pragmatism, something new may eventually emerge.

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